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18:28 02/01/04

20888

DIRECTORY

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messages



directories



services



help



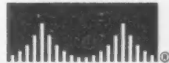
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Bridging the Financial Skills Gap

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A New Chapter in Malware

SECURITY: The Witty worm represented some scary malware firsts and is likely a harbinger of threats to come. IT professionals need to understand Witty and what it did, writes Counterpane CTO Bruce Schneier. **QuickLink 47272**

Why Is This Project So Expensive?

DEVELOPMENT: A coder on the front lines wonders why we don't design software with the future in mind. **QuickLink 47071**

Letter of the Law: E-Document Retention Policies

IT MANAGEMENT: There are no one-size-fits-all policies, but Steven C. Bennett of law firm Jones Day offers advice on how to craft the best document-retention policy for your company. **QuickLink 47147**

How to Justify Security Training

SECURITY: Training can provide a lot of organizational and personal payoffs if you know how to sell the idea to management. One of these ideas might get you signed up for that class or conference you want to attend. **QuickLink 47097**

Wanted: Managed Storage Service Supplier

STORAGE: To keep its staff focused on core competencies, a global law firm turns to Sun Microsystems to manage its 20TB SAN. **QuickLink 47114**

What's a QuickLink?

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AT DEADLINE

Symbol Pays \$40M To Settle Probes

Symbol Technologies Inc. said it will pay a total of \$40 million to settle accounting investigations by the U.S. attorney in New York and the U.S. Securities and Exchange Commission. Holtsville, N.Y.-based Symbol said the settlements will let it avoid criminal charges, although the SEC did file a civil action charging the company with securities fraud and other violations. Similar charges were lodged against 11 former Symbol executives.

Symbol also has agreed to settle two shareholder class-action suits by paying \$1.75 million in cash plus stock valued at a total of \$96.25 million. It still faces two other shareholder suits over accounting irregularities dating back to 1998. But CEO William Nuti said Symbol's new management team has "succeeded in putting the vast majority of our problems behind us."

IT Glitch Delays Bank's Processing

Royal Bank of Canada disclosed that a computer glitch was delaying its processing of deposits, withdrawals and payments, leaving the bank unable to provide up-to-date account balances. The Toronto-based bank said the problems began "during a routine programming update" to one of its systems. The glitch forced bank workers to recheck and verify tens of millions of transactions daily.

Intel Increases Q2 Revenue Forecast

Intel Corp. raised its second-quarter revenue forecast to the high end of the range it previously had predicted, citing strong flash-memory demand. Intel now expects revenue of \$8 billion to \$8.2 billion. Chief Financial Officer Andy Bryant said sales of PC processors are running 19% higher than they were in last year's second quarter, which is in line with Intel's expectations.

Canadian IT Execs Say U.S. Peers Are Overpaid

Suggest high wages fuel offshore moves; Canada benefits as a nearshore provider

BY PATRICK THIBODEAU
KANANASKIS, ALBERTA

ASK A GROUP OF Canadian CIOs if they think U.S. IT workers are overpaid. After the laughter dies down, there will be a lot of affirmative head-nodding.

"They are grossly overpaid, certainly relative to Canadian scales," said Allen Borak, vice president of information systems at Canadian Pacific Railway Ltd. in Calgary, Alberta. "It's quite astounding."

Borak, who's completing an IT compensation study comparing wage rates, said IT manager salaries in the U.S. are as much as 25% higher than those for similar positions in Canada after being adjusted for the currency exchange rate. "I was surprised by the difference," he said.

Some Canadian CIOs suggest that a key reason U.S. workers are facing a larger offshore threat than their northern counterparts is because of their high pay. They see evidence of such high wages when U.S. providers bid on consulting services with hourly rates of \$200.

"The American market is overheated," said Michael Finlayson, national manager for information services at Toyota Canada Inc. in Scarborough, Ontario. And IT is "adding high costs into an organization as a whole," he said.

Looking Offshore

But Canadian IT executives aren't ignoring the offshore option, which their U.S. peers use to reduce labor costs.

Alex Federucci, senior manager of information systems and services at Talisman Energy Inc., an oil and gas company in Calgary, said that although offshore pricing pressure has

yet to affect Canadian IT salaries, she expects that it will.

Talisman outsources 90% of its IT labor but owns the assets, which outsourcers manage in-house. Federucci said she's interested in taking some low-risk IT services work offshore. "I think the price is going to go down on the commodity business," she said.

But because of its lower IT wages and an exchange rate that puts the Canadian dollar at about 25% below the U.S. dollar, Canada is an attractive nearshore outsourcing destination for U.S. companies.

RIS Resource Information Systems Inc., an application development and maintenance

[U.S. IT workers] are grossly overpaid, certainly relative to Canadian scales. It's quite astounding.

ALLEN BORAK, VICE PRESIDENT OF
IS, CANADIAN PACIFIC RAILWAY

outsourcer that sponsored a CIO conference here last week, is seeing steady growth in nearshore work from the U.S.: Two years ago, it accounted for none of its business; now it makes up 15%. The Calgary-based company estimates that Canadian IT salaries are about 30% below those of U.S. IT workers, before the exchange rate is considered.

But even RIS is going offshore to lower costs, having opened a facility last year in Romania. Workers there are paid about half as much as their Canadian counterparts.

Indeed, Borak, who uses RIS for some application development work, wants the company to shift more work to Eastern Europe to give him a "blended rate" that could lower his development costs by as much as 20%.

Some Canadian IT managers said many IT positions, especially those that demand ERP skills, could see a wage increase. "Truly qualified people are difficult to find," said Janet Topic, vice president of IT at Trimac Corp., a Calgary-based transportation company.

U.S. companies are also in need of people who have ERP experience, and some firms look north for them, Topic noted. "They actually recruit out of Canada," she said, adding that some Canadian workers go to the U.S. for those jobs and the higher pay. **C 47346**

One Canadian's View From Above

Peter Thompson founded RIS Resource Information Systems in 1979 as an application support and maintenance company. RIS now employs about 400 workers and does about 15% of its business as a nearshore outsourcing provider for U.S. companies. In an interview last week, Thompson, president and CEO of RIS, assessed the effect of offshore and nearshore work on U.S. IT wages.

How can nearshore providers compete against offshore operations in India with their lower prices? In application support and maintenance. The issue for the Indian companies is that the problems are occurring when they are asleep. Companies want instantaneous information. Application support and maintenance doesn't work offshore. We use a Romanian firm as our offshore option. But we funnel things there, like conversions and enhancements,

where you spec it and send it.

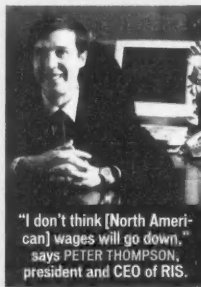
You've expressed the view that worldwide, there should be equal pay for equal work. Can you elaborate on that? This is my view long term. I think the Internet is the great equalizer, and there will come a point, whether you are living in India, Romania or China and are doing IT work, that you will get paid the same, more or less. There are geographic differences. You will

get paid more in New York City than in Buffalo, but the huge differences will disappear.

So, what's your message to the U.S. IT worker? I wouldn't worry. I think the value of the U.S. worker will always be business-related. The U.S. IT worker will be designing the applications for the business, testing them, putting them in. They'll probably be maintained somewhere else.

In terms of the so-called commodity skills - infrastructure maintenance and application development and support - do you expect salaries in the U.S. to fall to match global rates? No. What I think will happen is the Indian rates will rise. Their wages will come up. We're already seeing that. They are having high turnover. I don't think [North American] wages will go down.

- Patrick Thibodeau



"I don't think [North American] wages will go down," says PETER THOMPSON, president and CEO of RIS.

One Year Later, California Identity Theft Law Remains Low-key

The regulation hasn't spurred predicted lawsuits but has increased awareness

BY JAIKUMAR VIJAYAN

Nearly a year after California's landmark SB 1386 identity theft law went into effect, there has been none of the troublesome litigation that had been predicted to come in its wake.

But the law has raised overall corporate awareness of the need to have strong privacy protections in place, legal experts said last week.

SB 1386, which went into effect July 1 last year, requires companies that do business with California residents to inform customers when their names, in combination with personally identifiable information, have been accessed by an unauthorized person [QuickLink 39515]. Some legal experts had expected the law to open a floodgate of trouble, especially because of the ambiguous nature of some of its provisions.

For instance, the law calls for companies to encrypt data but doesn't specify what level of encryption is considered legally acceptable. Similarly, the law isn't specific about the obligations of the IT organization, mandating only that companies notify customers when "it is reasonably believed" that personal information has been compromised.

Educational Impact

To date, there have been no publicly disclosed cases in which the provisions of the law have been tested in court.

"It appears that it didn't have quite the impact that was expected," said Arshad Noor, CEO of StrongAuth Inc., an identity and compliance management company in Cupertino, Calif. "There have been no lawsuits and no court cases [so far]."

But it would be a mistake to take that to mean the law has

not been effective, said Donald Harris, president of HR Privacy Solutions Ltd., a New York-based identity management consultancy. "Companies are trying to do whatever they can to avoid any kind of litigation or enforcement" under SB 1386, said Harris, who conducts corporate workshops on the issue.

"The very fact that the legal risk posed by the law has caused companies to enact

protective and responsive measures" demonstrates its value, echoed Erin Kenneally, a forensic analyst at the University of California, San Diego.

"Many organizations, if they have a good and well-funded staff of security professionals, are adding SB 1386 to whatever other compliance requirements they have in effect," said Stephen Wu, president of InfoSec Law Group PC in Mountain View, Calif.

The IT department at Latham & Watkins LLP, a Los Angeles-based law firm, is one example. "We've conducted

SB 1386 awareness training, reviewed our systems and databases that could be subject to the law and have determined how we would respond in the event of a breach," said Eric Goldreich, the firm's manager of technology.

And though no suits have been filed under the law, it has gotten companies to proactively notify customers of security breaches involving personal information, said Christopher Pierson, an attorney at Phoenix-based Lewis and Roca LLP. "There are some companies that are still waiting for case law to be

Senate Bill No. 1386

CHAPTER 915

AN ACT TO amend, reorganize, and add Sections 179C.01, 179C.02, and to add Section 179C.29 to the Civil Code, relating to personal information.

[Appropriately, to come September 23, 2003. Filed with Secretary of State September 23, 2003.]

SB 1386, Privacy: Personal information protection.

Existing law regulates the maintenance and dissemination of personal information by state agencies, as defined, and requires each agency to keep an accurate account of the disclosure made pursuant to specified provisions. Existing law also requires a business, as defined, to take all reasonable steps to detect a customer's records that contain personal information when the business will no longer retain those records. Existing law provides civil remedies for violations of these provisions.

This bill, operative July 1, 2003, would require a state agency, or a person or business that conducts business in California, that owns or possesses, or has access to, or is responsible for the security of, any computerized data that includes personal information, as specified herein, to breach of the security of the computerized data that includes personal information, as specified herein, to have been, or is reasonably believed to have been, accessed by an unauthorized person.

California's SB 1386 privacy law

established" to fully implement SB 1386 requirements, Pierson said. "My advice is to err on the side of caution and not be the first test case for SB 1386." **47344**

Microsoft Puts SQL Server in Line With Rivals on Backup Databases

BY MARC L. SONGINI

Microsoft Corp. last week began letting SQL Server users who have Software Assurance contracts set up fail-over databases at no extra cost, a new policy that some customers said could give Microsoft an edge over Oracle Corp.

Microsoft last month announced that it would no longer charge Software Assurance customers for backup database servers, provided that the systems remain off unless the main database crashes or is corrupted and that they aren't used for processing on a regular basis.

Previously, users had to pay a variable fee to install a backup SQL Server database for disaster recovery purposes, said Sunny Charlebois, a product manager in Microsoft's worldwide licensing and pricing group.

"Our customers have told us that disaster recovery is an issue that matters to them," said Charlebois, who wouldn't disclose the earlier fees. She added that Microsoft's licensing policy now is "consistent with the competition."

Both Oracle and IBM, Microsoft's main database rivals, said they don't charge users extra for so-called cold-backup servers. However, Oracle limits the use of fail-over databases to 10 days per year, after which users have to buy a full license.

Weighing the Options

Tessco Technologies Inc., a Hunt Valley, Md.-based vendor of wireless products, uses both Oracle and SQL Server. But Hal Kuff, Tessco's systems and network manager, said he will consider directing future purchases toward SQL Server

because of the new fail-over policy.

For example, Tessco's IT staff is re-examining a plan to run a new supply chain application on an Oracle database.

"The Oracle test and disaster-recovery license model appears to be significantly more rigid," Kuff said. "We're wondering why Oracle is not taking a superior position in pricing." Tessco could save money by going with SQL Server, Kuff said, although he declined to estimate how much.

Jim Prevo, CIO at Green Mountain Coffee Roasters Inc. in Waterbury, Vt., said the

new approach on SQL Server might entice him to sign up for the Software Assurance program. Green Mountain runs both SQL Server and Oracle databases but is consolidating on Microsoft's technology. The licensing change "validates our decision to roll out all new platforms on SQL Server," Prevo said.

Ultimately, both vendors handle the configuration of cold-backup servers in much the same way, said Charles Garry, a Meta Group Inc. analyst. But he added that Microsoft's new policy seems to be more lenient than Oracle's.

Jacqueline Woods, vice president of global pricing and licensing strategy at Oracle, said Microsoft's move merely brings its fail-over policy for SQL Server in line with Oracle's. Woods said it's unlikely that an Oracle database would crash unless a major disaster brought it down, and she added that it shouldn't take more than 10 days to bring a primary database back up.

In addition, if a primary database server remains down and its backup is kept running as a replacement, a company wouldn't have to pay for another Oracle license because it would already be covered by the existing one, Woods said. **47324**

Database Licensing Policies

MICROSOFT ■ Users who have Software Assurance contracts can store copies of their databases on cold-backup servers that must be turned off until needed.

■ The new policy places no time limits on the use of secondary databases when they're needed.

ORACLE ■ Users can cluster together two database servers and bring the backup one online if the primary database fails or becomes corrupted.

■ A full license has to be bought for the secondary database if it's used for more than 10 days during a calendar year.

BRIEFS

Sears Finalizes IT Pact with CSC

Sears, Roebuck and Co. said it has finalized a 10-year, \$1.6 billion IT infrastructure support services outsourcing deal with Computer Sciences Corp. The contract's value is \$400 million less than Sears predicted when the retailer disclosed that it was negotiating with CSC (QuickLink 45543). Sears said CSC will hire "substantially all" of the 260 IT staffers who manage its systems now, with the transfers due to start on June 12.

Oil Company, IBM Ink Outsourcing Deal

IBM announced that its Business Consulting Services unit has signed a seven-year deal to take over the management of some accounting functions at Marathon Oil Co., as well as the systems that support the operations. The value of the contract wasn't disclosed. An official at Houston-based Marathon said the deal will include the addition of new technology "beyond that which Marathon could provide alone."

Trial Starts in DOJ's Suit Against Oracle

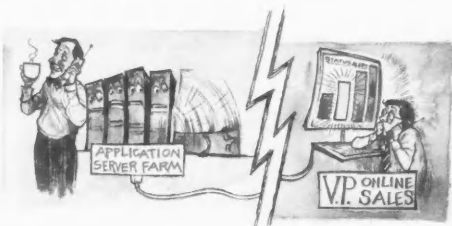
The antitrust lawsuit that the U.S. Department of Justice filed in an attempt to block a takeover of PeopleSoft Inc. by Oracle Corp. is scheduled to go to trial today at U.S. District Court in San Francisco. Oracle last week claimed that the DOJ's case is built around "the most confusing, meaningless market definition ever pursued in a government merger challenge."

Network Associates Gets E-mail Patent

Network Associates Inc. said it has been granted a U.S. patent on various techniques used to filter unwanted e-mail. The Santa Clara, Calif.-based company joins a list of vendors that hold anti-spam patents with potentially broad implications.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY GOSSIP BY MARK HALL



Don't Monitor Servers, Look at Your . . .

... business operations instead. That's the conclusion of Gordon Arbesman, network administrator at The Worker Benefit Plans of the Lutheran Church-Missouri Synod in St. Louis. Arbesman used a 3.0 beta release of the eQ Management Suite from Heroix

Corp. to watch the condition of a critical business application for 50,000 church members participating in a variety of benefits programs. And he's upgraded nearly 30 servers, with the final release due out today. Arbesman says that if you just watch the condition of individual servers, you may miss something important. For example, an ailing process that runs overnight on a separate server is unlikely to be noticed unless it's logically tied to the overall health of the application, which is exactly what eQ 3.0 does. He says the improved graphical presentation of the monitoring software gives him and line-of-business managers a quick view of the health of vital operations. Rick Lane, president of Newton, Mass.-based Heroix, says the upgrade also adds expanded trend reporting to help predict server performance and determine how effectively your multiprocessor servers are running. Arbesman hopes

Heroix will soon add dashboard capabilities to eQ because his CIO keeps bugging him for a quick "speedometer view" of overall operations. Good idea. Heaven help us if CIOs start playing with the monitoring tools themselves.

Wi-Fi is wonderful until you discover . . .

... that strangers can get network access while whiny executives can't. That's when you might consider evaluating WiFi Workplace, wireless network management software from Newbury Networks Inc. in Boston. The technical trick, according to CEO Michael Maggio, "is to be able to look at the air" like traditional network management tools can look at a wire. But it ain't easy. Wi-Fi's radio frequency signals travel hither and yon,

WiFi Workplace



bouncing through 3-D space with what can be generously described as imprecision. New-

bury's sensors feed data to the server-based WiFi Workplace management software, which builds graphical maps of the strength of signals. With that information, network managers can set policies about who can use Wi-Fi access points in physical locations, whether outside on a lawn or inside a conference room. Maggio dubs it "air traffic control for Wi-Fi." WiFi Workplace can also be used to optimize access point coverage, since you can actually see how effective signals are. Shipments are set to begin in September, with pricing starting at \$18,995.

"Actionable intelligence" gets a boost . . .



GNATOVICH says DecisionSite will help intelligence analysts find meaning in loads of data.

ing a small equity investment in his company, licensing its DecisionSite guided analytics software and assisting in the development of text-mining tools for agencies involved in national security. With DecisionSite analytics, intelligence analysts can quickly visualize mounds of structured and unstructured data into meaningful scenarios, sharing them with other analysts via browser-based DecisionSite Posters. Gnatovich says the ability to visualize the vast amounts of data available to the intelligence community lets "the brain make a comeback." That means analysts will be able to more quickly choose a course

of action. Watch out, Osama. We're coming.

Trust, but verify your incoming . . .

... e-mail with today's 4.1 upgrade to CipherTrust Inc.'s IronMail appliance. TrustedSource is part of the new release. It's a dynamically updated list of e-mail sources that exhibit good e-mail behavior, such as protocol compliance, where the IP address matches the domain of the mail sender. It also lists mailing sites that abide by end-user unsubscribe requests. In addition, the upgrade adds more graphical reports and increases quarantine space for suspect mail.

Tighten Web services security . . .

... with the XS 40 gateway from DataPower Technology Inc. in Cambridge, Mass. The device secures XML and Web services components to an application by ensuring the integrity of a code's source as well as its function. The 3.0 software release adds support for application build policies developed in the open-source Eclipse development framework as well as IBM WebSphere Studio. It bolsters its authentication service through access controls that can determine what each user is permitted to do within an application. It also improves the performance and reliability of applications that use a mix of Web services and MQSeries components. The appliance integrates with traditional net-



DataPower's XS 40 gateway

work frameworks such as Computer Associates' Uni-center and IBM's Tivoli. Pricing starts at \$65,000, and it's available now. 47325

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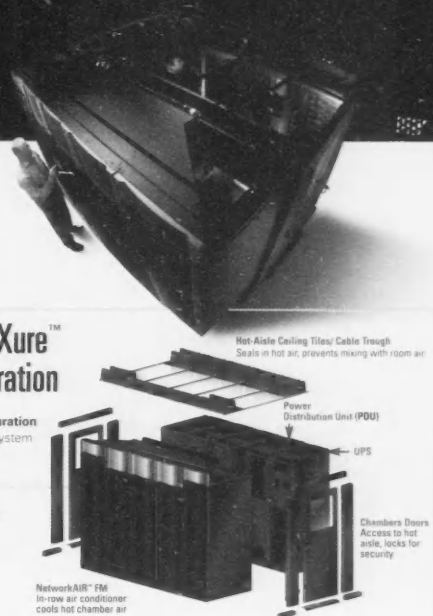
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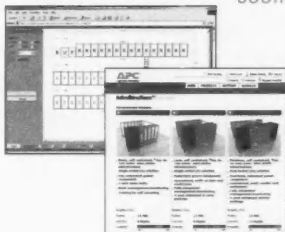


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Microsoft Security Exec Details Windows XP Service Pack Plans

The release, due this summer, places strong emphasis on firewall capability

BY CAROL SLIWA

MICROSOFT CORP.'S latest security efforts are focused on Service Pack 2 for Windows XP, which is due this summer. **Mike Nash**, vice president of Microsoft's security business and technology unit, recently discussed SP2 and the company's security strategy with *Computerworld*. Excerpts from the interview follow:



Q&A

What guidance can you give IT pros about Windows XP Service Pack 2 breaking applications? Making sure that we're doing things to make XP SP2 compatible with key customer scenarios is a top priority for us. One of the things with the new firewall in Service Pack 2 is to make sure that it's compatible with more scenarios so that it can be turned on by default and left on by the customers.

There may be some cases from a security perspective where we're doing things that change the behavior of the operating system. . . . There may be certain cases where security and compatibility are at odds, and we're going to focus on security, because people really need us to be focusing on security. . . . The most important thing customers should be doing right now is planning for their rollouts of Windows XP Service Pack 2, which means testing it today so that if there are issues, we get that feedback now so we have a chance to respond to it before we ship the product.

How important is the firewall in Windows XP SP2 for companies that already have network firewalls? When your machine is always inside the network, the

primary thing that the firewall's going to do is protect your machine from another infected machine that was brought inside the network. If you have a laptop that comes in with an infection, the edge [network firewall] can't help you. But your machine will be protected from that attack. So I never turn my firewall off.

The other thing that will happen, if a machine comes in with malicious code on it, its ability to propagate can be somewhat slowed down by having a firewall there. The primary place it makes a difference is for machines that are checking in remotely. We know a number of situations where an end user VPNs into the corporation and didn't have a firewall turned on. That machine is both out on the Internet but inside the [corpo-

rate firewall] all at the same time. Think of it as redefining "edge of the network."

Will XP SP2's firewall work with other personal firewalls? It is designed to support multiple firewalls, ours and a third party's, at the same time. Practically speaking, if you're using a third-party firewall and you're comfortable with its level of protection, that's a fine answer. Our primary goal is to make sure that customers have a choice.

I think one of the key benefits of our firewall is that it can be managed using group policy. . . . In Windows XP Service Pack 2, we've done work to make the firewall manageable using group policy with Active Directory but also allow it to support multiple profiles. So I can set my policy to a rule that says, "When the machine is inside the corporate network, allow it to do more things even though the firewall is still on. When that machine is not on the corporate network, and it's sitting in

a coffee shop or in a hotel room or in someone's home, increase the level of protection because I don't have the corporate edge protected for that machine." That's something that an administrator could do by policy based on what's appropriate for their organization.

Someone at a large Microsoft customer that makes weapons systems for the government told me he believes that perfect software can be written. Is there any chance you'll rewrite Windows to take advantage of what you've learned about security? I'm not a person who believes that perfect software is possible at that kind of scale, because there's always going to be some level of vulnerability. Pragmatically, certainly we do everything we can to make sure that we're training our engineers on how to build and design secure code, making sure that we're testing our software and making the software configuration as secure as possible. But there are go-

ing to be vulnerabilities in software, and therefore the approach is to make sure that we create essentially countermeasures to make sure that even if there is a vulnerability, we can isolate the system software or the application from the malicious software that might try to attack it and drive more resiliency of how that software behaves under attack.

Does that approach represent a change in strategy? I wouldn't say it's a change in strategy as much as I would say it's a change in emphasis. Isolation and resiliency was something that we always understood. Being more pragmatic about how it could be used is what's different. If you look at why did we do Windows XP SP2, the original idea was, with the firewall built into Windows XP turned on, a customer wouldn't have been attacked by Blaster, even if they'd never installed a patch in their life. . . . We'll of course always work to improve quality. We're not letting up the gas at all on that. But as you go in and perhaps fix some of the quality issues, there is the risk of breaking things. You can introduce more problems, so you have to do that in a measured way.

Q 47348

Microsoft Sees Need to Escalate Efforts in Security War

BOSTON

A Microsoft security executive said last week that the threat of potentially more destructive viruses makes it difficult to gauge whether the company is winning the war to protect its products from malicious attacks.

"It's hard to tell because we haven't seen some things yet that may reshape the dynamics," Scott Charney, Microsoft's chief security strategist, said during an interview with *Computerworld* at a company security summit here. "We haven't seen polymorphic viruses very much that change their signatures on the fly. The existing set of tools doesn't work with that. That's not just an issue for us, but [for] the antivirus

vendors" as well, he said.

Charney said the potential for more destructive viruses that could format or encrypt drives on the fly has made him a proponent of backing up data. "Hard drives became so reliable that people stopped backing up," he said.

"And the industry stopped telling people to back up. Now I'm a huge proponent of it. I'm telling people to back up again, because we know that virus is coming."

Charney said Microsoft products are becoming more secure and easier to manage, and cus-

tomers feedback has shown that the company is starting to make a difference. "But we need to stay the course," he added. "We need to do more."

Microsoft has been reviewing and refining the Trustworthy Computing initiative it launched over two years ago, adding requirements for annual training to help software engineers keep up with changing threat models, according to Charney.



CHARNEY: Initiative is making a difference, but "we need to do more."

He said the company has also been testing a survey tool to more objectively measure how its software engineers are applying

their security and privacy training to their day-to-day work.

Charney said Microsoft has also launched a project called the Trustworthy Computing Inquiry Board, modeled after the National Transportation Safety Board. Microsoft currently does root-cause analysis, he noted, but that may not be enough. Some of his staff members took a course to learn more about the NTSB's methodology, which involves analyzing the series of events that occurred before and after an accident to see if it could have been prevented, Charney explained.

"They're trying this process to see what the report looks like in comparison," he said. "We continue to try and think outside the box."

- Carol Sliva

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BRIEFS

Accenture Awarded DHS Border IT Deal

The U.S. Department of Homeland Security said it has picked a team of vendors led by Accenture Ltd. to design, install and support a visitor-tracking system for land-border crossings. The contract could be worth up to \$10 billion over 10 years. The system, called US-VISIT, needs to be in place at the 50 busiest land crossings by year's end, the DHS said. (For more on US-VISIT, see Pimm Fox's column on page 26.)

Nortel Sees No Fast End to Restatement

Nortel Networks Corp. said it won't finish a restatement of its 2003 financial results and report this year's first-quarter numbers by June 30. Brampton, Ontario-based Nortel also said that the Royal Canadian Mounted Police are reviewing its accounting to see if an investigation is warranted. Nortel already faces a criminal probe in the U.S. and investigations by regulators in the U.S. and Canada.

SCO Ends Dispute With Key Investor

The SCO Group Inc. said it will buy back preferred shares held by BayStar Capital LP for \$13 million plus 2.1 million common shares. The deal resolves a dispute between SCO and Larkspur, Calif.-based BayStar, which has criticized the Lindon, Utah-based vendor's Unix software business and the high-profile stance that SCO adopted in its legal battles against Linux vendors and users.

Short Takes

Natick, Mass.-based CRM vendor EDIICS INC. has bought Minneapolis-based Firepond Inc.'s Brightware unit, which makes e-mail response management and customer service chat tools. The price wasn't disclosed. . . . FS NETWORKS INC. in Seattle said it has acquired MagniFire WebSystems Inc., a firewall vendor in New York, for \$29 million.

EMC Packages Centera With Software, Services

Disk array bundles provide storage for compliance efforts

BY LUCAS MEARIAN

EMC CORP. today plans to announce three technology bundles that combine its Centera fixed-data disk array with software and technical services for storing e-mail and documents to support regulatory compliance initiatives.

The preconfigured offerings include e-mail archiving tools from EMC's Legato Software division, plus document archiving and retrieval software from the storage vendor's Documentum unit and Mobius Management Systems Inc. in Rye, N.H.

EMC said the bundles can be used stand-alone or as part of information life-cycle management (ILM) applications that also involve its mainstream Symmetrix and Clarion arrays and its Celerra network-attached storage devices.

The combined offerings

give users more of a plug-and-play approach to buying storage hardware and software than does the a la carte sales model that EMC typically uses, said John Gubernat, the vendor's director of global solutions for compliance and enterprise content management.

Patched Together

CareGroup Inc., a Boston-based company that operates six hospitals, uses Symmetrix, Clarion and Centera devices as part of an ILM system for storing radiology images, patient records, e-mail and data from PeopleSoft Inc.'s ERP applications. But CIO John Halamka said his staff cobbled together the ILM setup the hard way, without the benefit of a packaged offering.

EMC's announcement should be "very good news" for users that haven't adopted a do-it-yourself strategy yet, Halamka said. He added that CareGroup over the past three years has combined EMC's storage hardware, Cisco switches and middleware in

WHAT EMC IS OFFERING

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- Documentum Content Server, Compliance Manager, Records Manager and Trusted Content Services
- ViewDirect TCM

Services

- EMC installation and project management services
- Joint EMC/Mobius data migration assistance

an effort to address the regulatory requirements of the Health Insurance Portability and Accountability Act.

CareGroup's storage-area network backs up data from 175 Windows servers and 25 clustered Unix systems, storing X-rays and clinical records that are new or less than a year old on the high-end Symmetrix arrays. Files and images that are less than 10 years old are stored on Clarion devices. Once they surpass the

10-year mark, the records are shifted to Centera.

Halamka wouldn't disclose the cost of the project, but he said CareGroup is saving more than \$3 million a year. Most of the savings can be attributed to not having to publish patient records on paper and radiological images on celluloid.

"Now the entire organization runs on electronic records," Halamka said. "Our system will show you which X-ray has been shot and what class of storage it lives on. So if you click on something shot yesterday, you get it immediately. If it's something shot a year ago, you get it in 30 seconds. If it was shot 10 years ago, it takes a full minute."

Peter Gerr, an analyst at Enterprise Storage Group in Milford, Mass., said EMC's new packages may give users in regulated industries a level of comfort on compliance.

"They're also proving that they're working to integrate their acquisitions," Gerr said. "I don't think it's a mistake that two of the three bundles include Legato and Documentum software."

EMC didn't disclose its pricing for the new bundles, saying that costs will vary widely depending on the configuration. **■ 47339**

Microsoft Tightens Links Between Office, CRM Apps

BY MARC L. SONGINI

Microsoft Corp. in August plans to add features to its CRM software that are designed to offer users tighter integration with Office 2003.

The software vendor last week announced that it's developing an add-on feature pack for its Microsoft CRM 1.2 applications, which were released in December. Existing users will be able to install the new functionality without paying any additional license fees, according to Microsoft.

Microsoft is using its Office Information Bridge Framework, which is based on Web services technology, to in-

crease ties between the CRM applications and Office 2003. End users will be able to create and track sales letters and retrieve customer-related data in Office without having to switch back and forth between that software and Microsoft CRM, the company said.

"It's a way to have fewer clicks to get information," said Holly Holt, group product manager for Microsoft CRM within the vendor's Business Solutions unit. For instance, when a user is writing a letter to a customer, a separate window will pop up and provide data about previous dealings with the customer, Holt said.

Similarly, closer links between Microsoft CRM, Office and Microsoft's Windows SharePoint Services collaboration software should help speed the creation of sales proposals, she added.

There will also be changes to the client administration tools that help manage end-user privileges. IT staffers will be able to configure the system so users can access calendar information while working off-site but be restricted from saving customer data locally, Holt said. In addition, data synchronization can be staggered based on the type of information that's involved.

The feature pack will fix some basic shortcomings in the CRM software, but it's just a "baby step" for Microsoft, said Sheryl Kingstone, an ana-

lyst at The Yankee Group in Boston. Kingstone noted that she's awaiting better off-line performance with Microsoft's Outlook e-mail client as well as additional sales, service and marketing capabilities. "A big problem with Microsoft CRM has been performance and usability," she said. **■ 47353**

MICROSOFT CRM

Other New Features

- **Microsoft Mobile CRM 1.2**, which will provide contact and sales-opportunity management tools for use on Pocket PC devices.
- **A redeployment tool** for migrating Microsoft CRM configurations and data among different installations, sites and application domains.

Offshore Threat Debated at Hearing on Network Security

Vendors put on defensive before House

BY GRANT GROSS
WASHINGTON

Offshore software development is one factor behind the escalation of exploitable network vulnerabilities, according to testimony at a hearing on network security before a U.S. House subcommittee last week.

Software companies must add more controls to the development process for software produced outside the U.S., said Steve Solomon, CEO of Citadel Security Software Inc. in Dallas.

"Software development organizations should be required to have all overseas-developed software examined for malicious capabilities embedded in the code," Solomon told the House Government Reform Committee's Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census. "Industry and government must work together to develop some form of standard or review process to address this growing threat."

Solomon's comments were rebutted by representatives from Microsoft Corp. and Juniper Networks Inc.

"It really doesn't matter where software is developed," said Dubhe Bienhorn, vice president of Juniper Federal Systems. "It is a process that requires very tight controls and very intense scrutiny."

Cheap Solution

Solomon defended his comments by pointing out that software vendors see offshore development as "easy and cheap."

"Maybe my colleagues on this panel have [secure off-shore] processes in place," he added. "A lot of companies don't."

Subcommittee chairman

Rep. Adam Putnam (R-Fla.) focused some of his questions on the process of patching software after vulnerabilities are discovered. When Putnam asked whether the patching process and the alert process that accompanies it are working well, Scott Culp, senior security strategist at Microsoft, said he believes that software vendors are working hard to notify customers.

"We have a very active interest in making sure as many people as possible know about our mistakes and how to fix them," Culp said.

Asked by Putnam if he's satisfied with the patch and alert

process Microsoft now has in place, Culp responded that he's never satisfied. "I'd like to send out a lot fewer of those alerts," he said.

Putnam started the hearing by taking both private companies and government agencies to task for not moving fast enough to address continuing cybersecurity concerns. "As a nation, we have taken very dramatic steps to increase our physical security, but protecting our information networks has not progressed at the same pace, either in the public or in the private sector," Put-

nam said. "I remain concerned that we are collectively not moving fast enough to protect the American people and the U.S. economy from the very real threats that exist today. ... The time for action is now."

False Sense of Security

Solomon also suggested that companies that rely on patch management services have "false security" and may be neglecting larger problems.

For example, they may not have broad security policies or plans for recovery after attacks. "On average, only 30% of an organization's verified vulnerabilities relate to patching, leaving their networks exposed to the remaining 70% of the problem, which are more dangerous and easily exploited," he said. "These products do

not address the problem of full life-cycle vulnerability management and effectively become part of the problem."

Louis Rosenthal, executive vice president at ABN Amro Holding NV in Chicago, called on the subcommittee to find ways to encourage software vendors to accept responsibility for the role their products play in supporting U.S. critical infrastructure. He also asked the subcommittee to support a measure that would hold software vendors more accountable for the quality of their products and for continuing patch support for older but still viable versions of their software.

Incentives like tax breaks, cybersecurity insurance and lawsuit reform could encourage software companies to make more secure products, Rosenthal added. **47343**

Gross writes for the *IDG News Service*.



PUTNAM chided the private sector and government for not addressing cybersecurity concerns fast enough.

Alcoa to Ship 70 IT Jobs to India

Positions currently outsourced in U.S.

BY JAIKUMAR VIJAYAN

Global aluminum giant Alcoa Inc. confirmed last week that it plans to outsource 130 jobs, including about 70 IT positions, to an India-based services provider as part of a move to reduce costs.

The jobs will move to India in phases over the next 18 months; the transition will result in the elimination of an equal number of positions from the Pittsburgh-based company's North American data center in Upper Burrell, Pa., and a business service center in the region.

A "vast majority" of the affected jobs are already outsourced and are currently being performed by a U.S.-based services provider, said Kevin Lowrey, a spokesman for the company. The only difference under the new arrangement is that the jobs will be handled by an offshore contractor

instead of a domestic one, Lowrey said. He declined to name the U.S.-based services provider.

The outsourced positions are in groups that deliver chargeback services to other businesses within Alcoa, Lowrey said. "They want to be as low cost and as effective as they can be," which is the reason for moving them offshore, he said. "We are a global company, and we will continue to source globally" where it make sense, he added.

The affected jobs represent about 6% of Alcoa's workforce in the Pittsburgh metropolitan area. The \$21 billion company has about 120,000 employees worldwide.

The size of Alcoa's workforce has been declining since 2000, when it employed about 142,000 people. However the number of workers in the Pittsburgh area has been increasing, according to a researcher at the *Pittsburgh Business Times*, which tracks local employment statistics.

News of Alcoa's plans to ship jobs to India comes at a time when U.S. companies are increasingly reluctant to talk about their offshore moves because of the strong sentiment against the trend.

The growing lack of transparency is making it difficult to get a true handle on the level of offshore outsourcing that's taking place, said Marcus Courtney, president of the Washington Alliance of Technology Workers in Seattle.

Corporations are doing everything they can to keep their activities and the number of jobs being moved overseas from being publicized.

MARCUS COURTNEY, PRESIDENT, WASHINGTON ALLIANCE OF TECHNOLOGY WORKERS

WashTech operates a Web site that tracks companies that have outsourced jobs to overseas locations. So far, the organization has compiled a list of 250 companies culled from media reports and insider tips.

"Corporations are doing everything they can to keep their activities and the number of jobs being moved overseas from being publicized," Courtney said.

It's also getting harder for companies to keep a lid on the information if they're inclined to do so, said Stan Lepeak, an analyst at Stamford, Conn.-based Meta Group Inc.

"There's definitely a trend away from the days when companies would tout such deals," Lepeak said. And it's becoming harder to get information on how many jobs are being outsourced or what the dollar value of such deals might be, he said.

"But it's hard to keep it a secret," Lepeak said. Regulatory requirements, disgruntled workers or the presence of a labor union almost always ensure that word of such deals gets out, he said. **47340**



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LAWSON

It's Time.

Continued from page 1

Solaris

Sun servers, including one with an Oracle Corp. database containing 50 million records. Verity said he opted for Solaris over Linux because it's strongly supported, secure and well maintained. Although Verity said using Linux is becoming less of a security concern, he plans to stick with Solaris.

Allowing developers to make contributions to source code is a good thing, said Verity. "We like to get at source code, because we think we can do more interesting things with it," he said.

'Open-Source' Solaris

The plan: Sun will likely use its Java Community Source license model for Solaris.

The reason: Overseas markets are resisting proprietary operating systems, and Sun may be hoping to slow movement to Linux on low-end systems.

The timing: Sun isn't saying, but Solaris 10 is due by the end of the year.

At Sun's announcement in Shanghai last week, Jonathan Schwartz, Sun's president and chief operating officer, said the company would "take the model that we used with Java" and extend it to Solaris. "Make no mistake, we will open-source Solaris," he said.

But open-source advocates maintain that the Java licensing scheme isn't a true open-source model because it still gives Sun control over the final product, said Eric Raymond, president of the non-profit Open Source Initiative. "We don't think we have grounds for optimism here," he said.

Jon Hall, executive director of Linux International, a vendor group based in Amherst, N.H., that promotes Linux use, said the fact that the announcement was made in Shanghai suggests that it was aimed at countries such as China that are pushing open-source over proprietary systems.

But analysts doubt it will have much impact on commercial users.

"I don't think that they will care whether or not Solaris is developed using an open-source model," said Perry Donham, an enterprise systems consultant at Collabor-

Sun Offers Subscription Plan for Storage

SUN last week said it will begin offering a subscription-based pricing model on its disk arrays that lets customers pay a monthly fee for use of the hardware plus storage management tools and ongoing technical support.

In addition, Sun announced its first disk array based on low-cost Serial ATA drives for secondary storage applications. The company also introduced a midrange array with enterprise-class features and said it plans to add a line of network-attached storage devices this fall through a reseller deal with Procom Technology Inc. in Irvine, Calif.

Sun's pay-as-you-go storage pricing initially is being offered on its high-end StorEdge 9980 array, although the company said it eventually plans to extend the approach

to other models. The monthly cost starts at \$1.95 per gigabyte for a three-year contract.

Companies that adopt the subscription-based pricing will pay only for the capacity they use, eliminating upfront storage costs. "This is not a capital expenditure for customers," said Adam Mendoza, director of strategic alliances for Sun's Network Storage Products Group. "This is intended to be an operational expense."

Sun also announced an upgrade of its policy-based file management software that adds dynamic data archiving capabilities plus a new graphical user interface and management wizards. Version 4.1 of the Storage Archive Manager-Quick File System (SAM-QFS) software can support up to 1 petabyte of data, four times more than

the current release supports.

Chris Peterson, vice president of IT at Earth Satellite Corp. in Rockville, Md., has been beta-testing the new release of SAM-QFS for two months, using it to store satellite images of the earth, which his company sells to NASA and other customers.

Each time a backup took place on his old system, the entire file system had to be scanned to determine whether a file had been archived, a process that could take minutes or even hours and eat up 100% of his server's CPU cycles.

"Now they've built intelligence into the file system itself, so whenever someone creates a new file, [the software] automatically places it into an archive list," Peterson said. "Then all we do is tell the archiver to archive what's been changed."

- Lucas Mearian

ative Consulting based in Woburn, Mass. "They will care that the software works and that they can get support from Sun."

Unix systems, primarily IBM's AIX, Hewlett-Packard Co.'s HP-UX and Solaris, are losing ground to Linux and Windows. According to mar-

ket research company IDC, 866,000 Unix operating system shipped worldwide in 2000. That number declined to 622,000 in 2002. IDC is still assembling its 2003 data, but analyst Dan Kusnetzky said he expects that those numbers will also show a decline.

"I think Sun is trying to

slow down or perhaps halt the erosion of its base by trying to offer in Solaris the things that are perceived as attractive about Linux and other open-source environments," said Kusnetzky. They include the ability to have some input and make source-code changes, he said. **C 47345**

Continued from page 1

Kumar

strator at Guidant Corp. "I felt that with all the bad financial stuff going on on his watch, why is he still hanging around?"

Harzewski said that several years ago, she had felt pressured by CA salespeople to sign contracts on a certain date "with pressure from management above."

"We don't need the distractions of the accounting irregularities, so I think he should fall on his sword and get out of the way," echoed a longtime CA user who spoke on condition of anonymity. "He should start a club with former CIA director George Tenet."

Other users had less-critical comments.

"Companies using CA should be concerned about how all these management shifts affect products and support, but I don't see a big impact on the user level," said Carmen Huff, president of the North America Ingres User Association and lead database administrator at Alliance Data Systems Inc. in Dallas. "The excitement about open-source for Ingres and other products is not going to be diminished by what's happening with Sanjay."

Huff said she welcomes the investigations by the U.S. Securities and Exchange Commission and the U.S. Attorney's Office into CA's accounting practices. "Somebody high up has to watch what's happening at the top of these companies," Huff said. Government officials couldn't be reached at deadline on Friday to comment

on any possible actions involving CA or Kumar.

Chris Poole, president of the Florida CA Users Group and senior analyst at Convergys Corp. in Jacksonville, credited Kumar with "dramatically improving the quality of products when he took over as CEO." Specifically, he said, Kumar pulled CA workers off development of new products to produce a patch for its Unicen-ter line of management tools.

Richard Evans, senior vice president of Neways International Inc. in Springville, Utah, said he would have "loved to see Sanjay stay... because his knowledge of technology was outstanding and he was good in customer service."

Some analysts said Kumar's decision to leave CA may have been prompted by pending legal action by federal authori-

ties. "This is not good news for Sanjay personally," said Rich Ptak, an analyst at Ptak, Noel & Associates in Amherst, N.H. "There was no real reason for Sanjay to leave unless the government made it clear to management staff that he was going to be indicted."

CA Chairman Lewis Ranieri issued a statement Friday suggesting that Kumar's departure will help settle the government's investigation of CA.


"The [CA] board is committed to reaching a settlement of the government's investigation into the company's past accounting practices as quickly as possible," Ranieri said. "We are working hard to take the remedial steps necessary to put this entire matter behind us. Sanjay's decision to leave CA was made in that spirit."

Company officials declined to comment beyond the statement. In April, Kumar had been ousted from his position as chairman and CEO and assumed the title of chief software architect.

"It has become increasingly clear to me in the past few days that my continued role at CA is not helping the company's efforts to move forward," Kumar said in the statement. "I understood that my stepping down as chairman and CEO represented a break with the past, but I have reluctantly concluded that as long as I hold any position, focus on past issues and my current role will continue." **C 47368**

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Start-up Finalizes Suite Of IT Management Apps

ITM adds module that supports IT governance, regulatory compliance

BY THOMAS HOFFMAN

Start-up vendor ITM Software Corp. has completed the development of an integrated suite of IT management applications that early users and analysts said is something akin to an ERP system for CIOs.

The ITM Business Suite is a set of five software modules designed to help IT executives manage vendor relationships, project portfolios and the process of aligning internal IT skills with business needs. Last month, the Mountain View, Calif.-based company added an IT governance and regulatory compliance application and formally announced the entire suite.

The ITM Governance and Compliance Management module can be used to document corporate IT processes and ensure that they aid efforts to comply with the Sarbanes-Oxley Act and other regulations, the company said (see box). The software supports the use of standard governance models, such as the IT Infrastructure Library and the Control Objectives for Information and Related Technology, or CobiT.

Dennis Gaughan, an analyst at AMR Research Inc. in Boston, said software for managing IT governance activities and portfolios of technology projects is available from several other vendors, including ChangePoint Corp., Mercury Interactive Corp. and Niku Corp.

Soliciting Feedback

But over the past 18 months, ITM has solicited detailed feedback from more than 150 CIOs on functionality they'd like to see in its suite, Gaughan added.

"ITM does a better job of customer partnering than any vendor I've ever worked with," said Madeleine Fackler, vice president of information manage-

ment and CIO at LifeScan Inc., a Milpitas, Calif.-based subsidiary of Johnson & Johnson that makes blood-glucose monitoring systems. "Other software companies have asked me for my feedback, but not with the level of discussion that they had."

ITM began beta-testing its technology in late 2002, and LifeScan installed the vendor's base module early last year. This month, it plans to start deploying the vendor relationship management application, Fackler said.

The software will run on a Linux-based application server that's equipped with BEA Systems Inc.'s WebLogic middleware and connects to a report server running Windows

2000. Fackler said she plans to evaluate the IT governance application after the rollout of the vendor relationship module.

Kevin Kryzda, CIO for the government of Martin County, Florida, said his IT department is deploying ITM's project portfolio module and expects to start running the software on either Sun Solaris or Red Hat Linux this month.

Martin County, which is on the Atlantic coast about halfway between Miami and Orlando, began restructuring its IT department

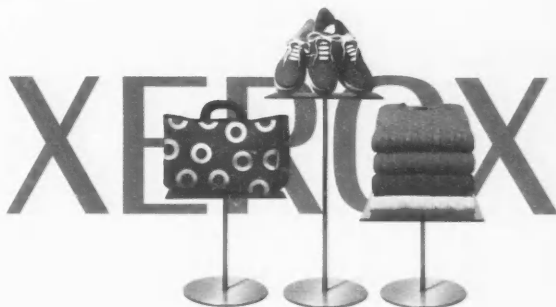
three years ago. In doing so, "we wanted to make sure we were measuring how effectively we were meeting business objectives," Kryzda said. ITM's software should help support that goal, he added.

For IT departments with 50 to 100 workers, ITM's pricing starts at about \$100,000 for the base module and one application. The software supports Oracle databases and can run on Windows, Linux and Solaris operating systems. **47303**

MORE NEWS ONLINE

A Meta Group Inc. survey finds that less than 20% of large companies have formal governance committees.

QuickLink 47304
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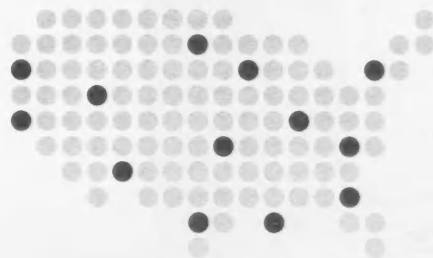


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Sony Pulls Plug on PDAs Outside Japan

BY TOM KRAZIT

In another sign that conventional handheld devices have lost the cachet they once en-

joyed with users, Sony Corp. last week said that it won't add any new models to its Clie product line outside of Japan

for at least the rest of this year.

Sony said in a statement that it still views mobile devices as a key component of its busi-

ness strategy. But for now, the Tokyo-based company added, it "is reassessing the direction of the conventional PDA market" and focusing Clie product development and sales on the Japanese market only.

Sony shipped just over 100,000 Clie units in the U.S. during the first quarter, good enough for third place among handheld vendors, according to market research firm IDC. The U.S. sales accounted for nearly half of Sony's overall shipments during the quarter. But IDC said worldwide Clie sales plunged 50% from the same quarter a year earlier, far exceeding an industrywide decline of 12%.

Users of handheld devices are increasingly looking to buy mobile phones and converged smart phone devices, said IDC analyst Alex Slawsky. Voice support is quickly becoming essential, he added.

Sony has already mapped out a mobile phone strategy through its Sony Ericsson Mobile Communications AB joint venture, and Slawsky said there's little evidence of collaboration between the Sony Ericsson and Clie teams. He noted that Sony Ericsson has made a strong commitment to the Symbian operating system, and Clie is the highest-profile product line based on the rival Palm OS technology outside of PalmOne Inc.'s devices.

Flooding the Market

Over a three-year period, Sony released about 30 Clie models in the U.S. market, said Todd Kort, an analyst at Gartner Inc. The plethora of new models alienated some users who didn't want to buy a handheld when a new one would be arriving soon, he added.

Kort said that even though Sony's share of the worldwide PDA market fell to 8% in the first quarter, its withdrawal from the U.S. market could substantially affect Palm OS developer PalmSource Inc.

PalmSource now will get about 90% of its operating system business from Milpitas, Calif.-based PalmOne, according to Kort. Just eight months after the two companies separated in a strategy designed to foster independence, "almost, in effect, they're back together again," he said. **47305**

Krazit is a reporter for the IDG News Service.

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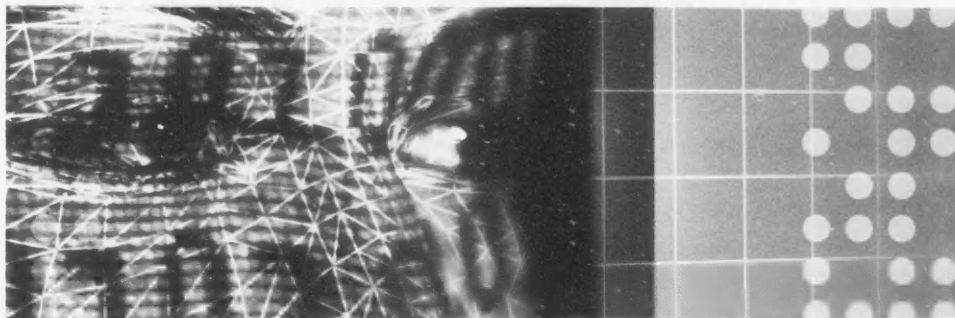


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Profiles in Business

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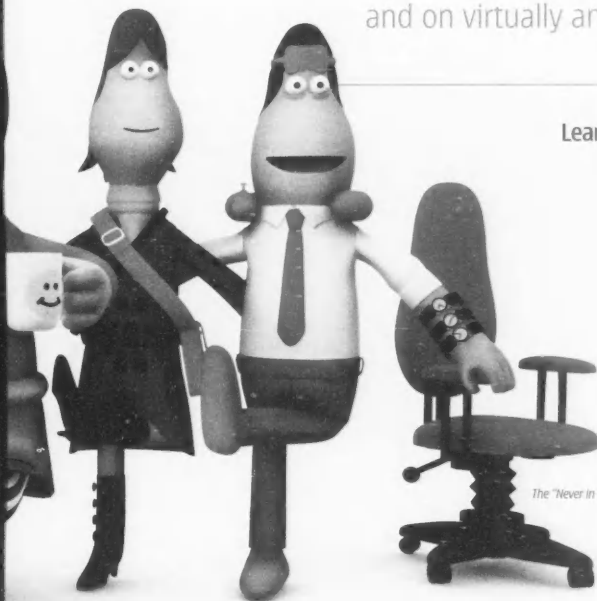


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MARYFRAN JOHNSON

Defending Boundaries

TWO WEEKS AGO in this column, I asked if you noticed — or cared about — the blurring of boundaries between editorial content and advertising. The question followed my apology for a

mistake we made in our May 24 issue, where we inadvertently placed an advertisement for Nick Carr's *Does IT Matter?* next to an excerpt from his book and an interview with the author. (You can read my editorial at QuickLink 47014.)

One reader summed up the whole problem perfectly: "Advertising should be kept at a distance from anything that represents the opinions of the media publishers. Otherwise it presents the appearance of impropriety, even if there is none."

The ads were part of a barter deal our events division struck with Carr and his publisher last spring. In place of his customary speaking fee for appearing at the *Computerworld* Premier 100 IT Leaders conference, we agreed to run some ads for his upcoming book. But the unfortunate placement of the ad made it look as though we were actively participating in the PR campaign for the book (we aren't), or that we'd agreed to help publicize it in hope of additional advertising revenue (we hadn't).

To my great relief, many of you not only noticed, but you cared quite a bit. (See three of your letters on the opposite page.) But the concerns I heard expressed went beyond the importance of maintaining a clear separation of editorial content from advertising in print. They also encompassed the escalating invasion of ads into online content.

"The technologies available on the Web create an entirely new set of advertising capabilities and journalistic conflicts that mostly go unreported (or underreported)," wrote one secu-

rity expert. "Bang this drum often and loud."

Another, more cynical reader observed: "Reader trust in print is continuing to wane. The battle for online integrity has been lost."

I hope that isn't true. But there's no denying the fact that the online world has established distinctly different (and uncomfortably cozy) editorial/advertising adjacency standards. Online ads are sold by matching desired keywords with related content, making sure that an ad about storage, for example, will pop up near stories about storage. And the latest technology developments in online "contextual" advertising now let an advertising link be embedded inside the actual story.

To Brian Milum of Marietta, Ga., that invasion is bad news, and it's bound to backfire. "I think hypertext

links that lead to advertisements do an even greater disservice to the reader, the advertiser and the Web page authors," Milum wrote. "When I click a hyperlink (no matter what color it is), I expect to be taken to a page that provides additional information about the highlighted item — not to an advertisement."

A few readers, like Hank Wieland, marketing services vice president for the Telecommunications Industry Association, wondered how we would prevent a similar adjacency mistake from happening again, and whether *Computerworld* has any rules of conduct in place to ensure journalistic integrity. We changed the adjacency process to involve a third person scrutinizing editorial and ad placement, and we have also posted our longstanding editorial code of ethics online [QuickLink a4620]. Among other things, those 10 principles state that we must be committed to our readers, that our reporting must be fair and unbiased and that we must correct errors promptly and completely.

But of all those principles, the one that matters most is: "Editorial decisions are made free of advertisers' influence." I'm grateful that you're right behind us on that one. **47316**



MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at maryfran.johnson@computerworld.com.



PIMM FOX The Security Privilege

I RECENTLY CAUGHT Tom Cruise in *Mission: Impossible* on TV and marveled at the movie's use of IT. Tom's team of experts can break into government databases, launch probes of the Internet and find the proverbial digital needle in a haystack.

While Hollywood is great at setting the standard for IT imagination, the reality is more prosaic. That's why I'm not afraid of the U.S. government's plan to spend \$15 billion on a new whiz-bang network of databases to track foreign visitors. At least not afraid it will work.

There are more than 300 land, sea and air border-crossing points in the U.S., and the government is swamped trying to screen for terrorists.

The plan, dubbed US-VISIT, is to create virtual borders so that the more than 300 million annual visitors to the U.S. will be checked before they even get to the land of amber waves of grain. Once in the U.S., visitors could be monitored or at least checked against a giant database that would have links to local law enforcement, banking and educational systems.

Part of the plan to link 20 federal databases includes real-time authentication. This would possibly entail the use of photographs, fingerprints, iris-scanning and facial-recognition technology, and radio frequency chips embedded in passports.

To privacy advocates, this all sounds like a George Orwell nightmare. And certainly no one wants the U.S. government to use personal information for nefarious activities.

I don't think we need to worry. The government already has tons of data it can use against individuals — everything from old, unpaid parking tickets to long-overdue student loans. (As Raymond Chandler said, "Everybody has something to conceal.") But it doesn't use the information.



PIMM FOX is a London-based journalist. Contact him at pimmfox@pacbell.net.

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INDUSTRY ANALYSTS ARE SAYING:

- "Customers feel safe with AT&T. That is a very rare accolade indeed, given the trauma of operating in the global telecoms environment in recent times." — Janet Watkin, Telemark Consulting UK
- In a recent Telemark Consulting UK poll, AT&T's IP VPN Services were rated, "Excellent" by network managers worldwide.
- According to Forrester Research, AT&T is the best in the VPN business with a future-proof global VPN architecture. — Choosing The Right VPN, Forrester Research, Inc., March 2003
- IDC Rated AT&T top of all U.S. IP VPN managed carriers for market share and market leadership.

For more information, contact your AT&T Representative, or visit www.att.com/networking.



But privacy advocates haven't considered the possibility that convenience will win out. At Amsterdam's Schiphol Airport, fast-track security lanes that use iris-scanning technology are already in operation.

Called Privium, this membership-only program is restricted to European Union passport holders. There are two types of membership. Privium Basic costs about \$125 per year for the luxury of speeding through security lines. The \$145 Privium Plus offers you separate check-in facilities for your flight as well as priority parking.

The application process is online. And, intriguingly, you can link your frequent-flier numbers to Privium.

So here's a suggestion for Accenture, which last week beat out Computer Sciences and Lockheed Martin in the bidding for the contract to build US-VISIT: It should include free transportation, free parking and extra frequent-flier miles. Every visitor who agrees to submit to an iris scan or some other sophisticated biometric test should receive a travel voucher for a free trip to the city center.

This program would do two things: It would segregate, without racial or ethnic profiling, those unwilling to join the program, and it would reduce congestion at border entry points.

And as for the frequent-flier miles, at least we know that those database programs seem to work. **Q 47220**

DAN GILLMOR

A World Without Secrets

AS THE investigations continue into the abuse of Iraqi prisoners in Abu Ghraib prison, at least one thing is clear: The incidents might never have come to the public's attention had it not been for the digital photographs taken by soldiers.

Something else is clear, and it affects all large organizations: Keeping some kinds of secrets is becoming much more difficult.

In the Iraq prison case, if the military and the Bush administration had wanted to keep this abuse covered up, it wasn't possible. Once the photos had been taken and started to make their way from one soldier's computer to another,

their wider distribution was almost inevitable.

The phenomenon isn't just about cameras, though images plainly are more powerful than mere text. Weblogs, Internet chat rooms and message boards have become a means by which anyone can disseminate just about any kind of information. By adding photos, that information would be far more compelling.

As gadgets get ever smaller and more powerful, the secondary effects of this trend will grow in scale and implications. Traditional responses will fail.

Some organizations have tried banning camera phones in certain situations. Health clubs are banning them to prevent locker room pictures from making their way onto the Internet. In July 2003, Samsung, the giant Korean manufacturer, banned the use of camera phones in its factories, fearing the escape of trade secrets. Unquestionably, there's more of this to come.



DAN GILLMOR is technology columnist at the San Jose Mercury News. Contact him at dgillmor@mercurynews.com.

But we're rapidly approaching a time when cameras will be essentially undetectable. They'll be part of our clothing, our eyeglasses or other garb, if we choose to make them so. Eventually, cameras will be as small as particles of dust, and they'll contain radios that can send what they see (and hear) to computers nearby, and then to who knows where.

Science fiction author David Brin envisioned this kind of thing years ago. His prescription was transparency on both sides — a world where citizens could spy on governments as they spy on us, for example. We might someday reach a détente of sorts, granting ourselves zones of privacy.

That world, I hope, is a long way off. Sometimes governments must keep secrets. But they tend to reserve the right to keep everything secret while simultaneously reserving the right to spy on everything we do. The balance is

beginning to shift, to a degree, though, as the Iraq prison pictures showed.

IT people will be asked by their bosses to prevent the escape of information. They'll be tempted to use measures such as digital-rights management for documents, in an attempt to keep vital data from getting to competitors. And I expect to see wider bans on the use of mobile phone cameras in the relatively near future, however futile that might be.

My advice is to lighten up on the small stuff. Companies should be more transparent in their workings to begin with. When they tell their customers, employees and even competitors what they're doing, they're doing more to enhance communications than to create competitive problems.

I don't have a magic answer here. But trying to contain it all strikes me as futile. It's scary, but it's reality.

Q 47237

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site: www.computerworld.com/columns

READERS' LETTERS

Crossing the Line

THANKS TO Maryfran Johnson for her editorial on advertising boundaries ("Blurring Boundaries," QuickLink 47014). I agree that they should be as separate as possible. I had read the book excerpt "Follow, Don't Lead," and when I noticed the ad for the same book on the opposite page, my heart sank.

I enjoy reading *Computerworld's* articles. Its authors are well-informed, and the writing is as interesting and pertinent as it is concise. I thought I had finally found a quality source of news for the IT industry. But the positioning of that ad led me to doubt. There's just so much dubious information out there, one can't help but become skeptical. It's a relief to know that it was a goof.

Jeremiah Fletcher
Senior systems analyst, Tufts-New England Medical Center, Boston, online@jeremiahfletcher.com

THANKS FOR the candid apology regarding the poor positioning of that book ad. When I saw the feature and adjacent ad, I had several thoughts, all negative. First, I felt it

was a crass sale of an ad's position and wondered how much extra the book publisher paid. Then I wondered if the ad purchase helped generate the author interview and book excerpt. Last, I concluded that your publication had lowered its standards on such matters just to make more money. Now, having read your mea culpa, I feel much better, since accidents do happen, despite the best processes. But how about a follow-up column or feature article about the rules and procedures in place to ensure journalistic objectivity? The *Computerworld* brand is high quality, and that's a key reason I have had a paid subscription for many years. Your editorial restored my shaken faith, but I would like to read more about your efforts to prevent future problems.

Hank Wieland
Vice president, marketing services, Telecommunications Industry Association, Arlington, Va., hwieland@tiaonline.org

TO ANSWER the questions Maryfran Johnson poses in her "Blurring Boundaries" editorial of May 24, I do care. I immediately noticed the juxtaposition of the ad for

Nick Carr's book facing an article on the same topic and quickly turned the page in embarrassment, leaving both article and ad unread. No, I don't think you're tilting at windmills. However, I also don't think it's much of an issue in print (yet), because the old rules still hold — it's still very easy to distinguish between information and advertising, and if I am confronted too many times by crass commercialism, I simply stop reading that publication. I view online advertising as being more along the lines of the television infomercial, and I similarly change the channel as quickly as I can. Thank you for the apology — I was worried for a minute that I was the only person offended by that ad placement.

Cathy Taddei
Portland, Oregon

Wireless Worries

MARK HALL'S column "Still Worried About Wireless" [QuickLink 46026] made a valid point about security in the home office. Case in point: Two of my neighbors are key IT personnel for two of the largest banks in the nation. Both work from home and use an unsecured wireless broadband device to

connect to their offices. This device provides access (DHCP-enabled) to anyone within 150 feet of their house and requires no security key. When I questioned them, I learned that they were unaware that anyone could connect to their network from the street. I offered to help them enable security on their device, but they declined. They are still broadcasting IP addresses. I am thankful that I don't bank with their employers, since security seems a low priority. OK, maybe it is only these two employees, but that would probably be wishful thinking.

John Bumgarner
Security consultant, Cyber Watch Inc., Charlotte, N.C.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, *Computerworld*, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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2-Port Desktop

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Redesigned Database Improves Traffic Safety

Representatives from three Michigan state agencies helped redesign a traffic accident database to help save lives, improve highway design and reduce costs. **Page 33**



Handhelds Help Refineries Quickly Spot Problems

Bill Johnson at Lyondell-Citgo Refining is using IntelTrac handheld devices to move the refinery from paper-based systems to computerized workflow management. **Page 36**

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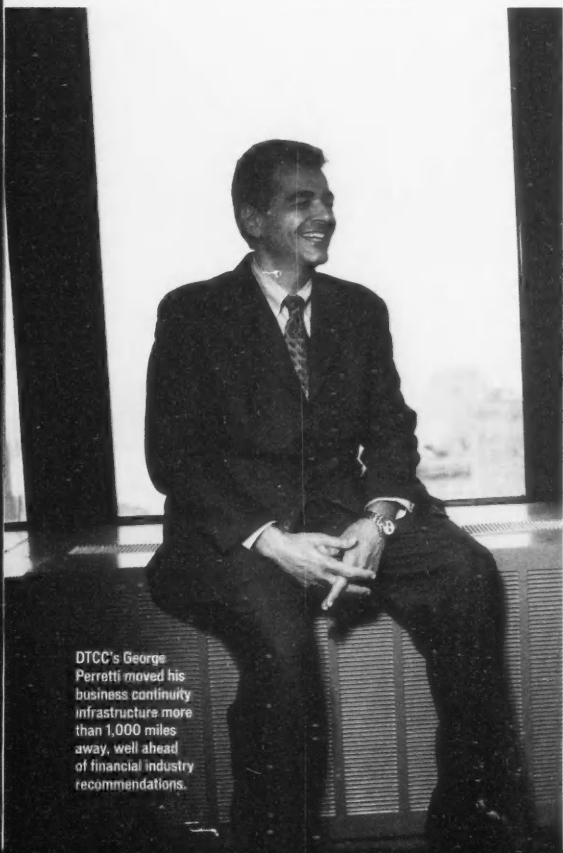
BY LUCAS MEARIAN

George Perretti had received a lot of praise for the business continuity and disaster recovery infrastructure he helped build six years ago for The Depository Trust & Clearing Corp., which is responsible for

Continued on page 32

IT Heroes Think Big

Not satisfied with the status quo, these **Computerworld Honors finalists** demanded more from technology. With a vision of the future — and hard work — they found new ways to cut waste, advance their industries and, in some cases, save lives.



DTCC's George Perretti moved his business continuity infrastructure more than 1,000 miles away, well ahead of financial industry recommendations.

About the Program

THE 56 FINALISTS, from 10 countries, represent the most innovative and visionary applications of information technology from the 2004 Computerworld Honors collection. Finalists were selected by a panel of distinguished judges based on benefit to society, impor-

ance of IT, originality, success and difficulty.

Finalists in each of the 10 categories are being honored today at Washington's historic National Building Museum.

This year's full collection of finalists and laureates in-

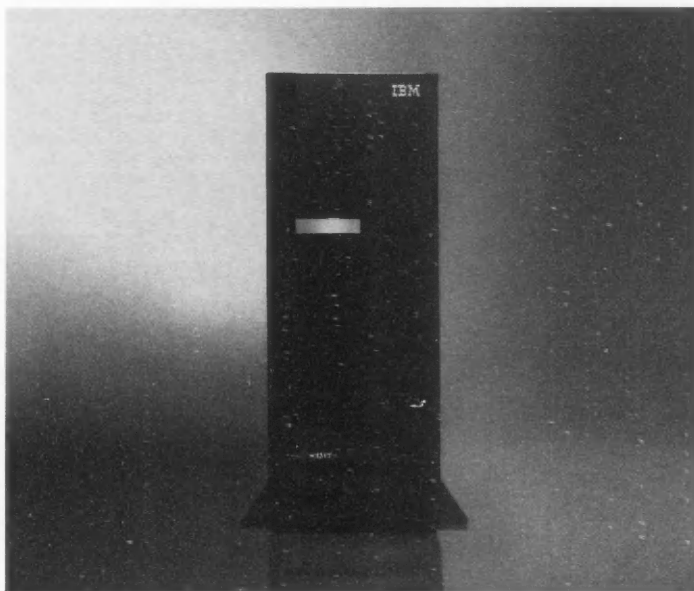
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finalists

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- **Accenture Ltd.** - Overseas U.S. citizens cast votes with confidence from any Internet-capable PC, doubling the number that can participate in elections.
- **BizRate.com** - The world's largest independent shopping search engine provides 1 million users each day with prices, availability and consumer ratings.
- **Equifax Inc.** - Automated monitoring and reporting of credit files alerts consumers to transactions that may be the result of identity theft.
- **Exostar LLC** - End-to-end encryption assures that only two users - the sender and intended recipient - can read Internet-delivered documents (see story, this page).
- **Foundstone Inc.** - A vulnerability management system scans systems and Internet addresses, keeping the University of California Irvine's computing network available to students and staff.

EDUCATION & ACADEMIA

- **Case Western Reserve University** - The world's fastest metropolitan network provides Gigabit connectivity to all of Cleveland's nonprofit institutions and paves the way for the first-ever citywide Wi-Fi access.
- **Harvard Medical School** - Students access an entire medical school curriculum online with wireless devices, moving easily from classroom to library to home.
- **MIT and Sapient Corp.** - The materials used in the teaching of virtually all university and graduate subjects are made available without charge on the Internet, promoting the university's mission.
- **Perkins School for the Blind** - A vast library of Braille and unabridged recorded books, together with large-print versions, serves users who can't read traditional type.
- **University of Michigan** - Collaboratively developed, community-oriented digital resources and multimedia initiatives celebrate multiculturalism and diversity.

ENVIRONMENT, ENERGY & AGRICULTURE

- **Calpine Corp.** - One of North America's leading power companies helps ensure reliable and profitable operation by means of consolidated Internet information portals.
- **Galp Energia SGPS SA** - The first-ever system for customer identification by fingerprint allows drivers one-touch purchasing of gasoline.
- **Little Diversified Architectural Consulting** - Integration of natural light analysis into 3-D architecture software facilitates the design of sustainable buildings that take maximum advantage of natural light.
- **SAT Corp./Lyondell-Citgo Refining LP** - Mobile workflow management technology catalyzes a new focus on proactive and preventive maintenance of oil refinery assets, lowering costs and eliminating most secondary failures (see story, page 36).
- **SK Corp.** - Korea's largest petroleum and chemical company transformed 140 legacy systems into a single integrated ERP environment.

Continued from page 29
clearing \$23 trillion worth of securities annually. Then came Sept. 11, 2001, and Perretti realized he needed to push the edge even further — more than 1,000 miles further.

DTCC, a New York-based firm, provides the primary infrastructure for the clearing and settlement of the majority of the equity, corporate debt and bond transactions in the U.S. And although DTCC continued to operate through the Sept. 11 terrorist attacks on New York and Washington, Perretti and his C-level executives knew the company could be targeted next.

"In 2002, we put together a task force to look how far we could go outside of the region and still provide recovery-within-hours time frames. We have very strict time frames for recovery, required by the Fed," Perretti says.

The task force looked at a number of items, including IT staff distribution and diversity, to ensure that remote data centers would have the proper personnel to run them if the other data centers were destroyed. The task force devised an architecture of remote data centers dispersed throughout the New York region and beyond that would simultaneously replicate data among them.

But of all the components of the multihop remote data-replication scheme, none was more challenging than ensuring that the data would be consistent as it was replicated so that if any one site was lost, the data could be rebuilt.

"The most difficult part was synchronizing the amount of data we have — 6TB of addressable storage," says Bella Zgut, vice president of database management at DTCC, referring to the amount of mainframe data being replicated over the various distances.

DTCC's task force was made up of a number of IT areas within the company, each working on its own component and then working with the others to come up with a complete solution. What Perretti and other members of his team didn't know was how far ahead DTCC was in the disaster recovery game.

While completing the project, an April 2003 interagency white paper called for financial firms to "maintain sufficient geographical-ly dispersed resources to meet

recovery and resumption objectives." The white paper also suggested moving disaster recovery sites 200 to 300 miles away from the primary data center.

"We didn't even talk about the industry white paper. We were ahead of the white paper every time they came out with something," Zgut says.

DTCC chose EMC Corp.'s Symmetrix arrays and its Symmetrix Remote Data Facility multihop data-mirroring software. The remote data centers can provide disaster recovery within three hours of disruption and a period of data loss ranging from zero to 30 minutes.

EXOSTAR LLC

Collaboration Platform Takes Security to New Level

BY DAN VERTON

It started as a relatively simple business-to-business hub. It became an industry-altering secure collaboration platform.

That's perhaps the best way to describe Herndon, Va.-based Exostar LLC's effort to develop an external collaboration environment. But it wasn't just any collaboration project. Forum-Pass 2.0, as it was later named, was deemed so secure that five of the world's largest aerospace and defense companies use it to store and share their most sensitive data.

The first version, developed in 2001, was based on Parametric Technology Corp.'s ProjectLink software and designed to facilitate collaboration among companies involved in joint development projects. However, the concept met substantial resistance from a user community that has historically been dead set against placing sensitive intellectual property in a third-party environment with little or no control over who can access the data.

Enter Exostar, an e-business founded jointly by BAE Systems, The Boeing Co., Lockheed Martin Corp., Raytheon Co. and Rolls-

Royce PLC with the mission of connecting those companies and their suppliers and facilitating more efficient collaboration on major projects. Security was their top concern from the start.

"The CIOs from each company [said], 'Unless our chief security officers all sign off on this, we absolutely have no intention of putting our intellectual property outside of our firewall and behind yours and all commingled together,'" says Jeff Nigriny, chief security officer at Exostar, who was responsible for engineering the new

virtual collaboration environment. That first meeting led to a two-day conference of technical experts from each of the five aerospace companies. They ultimately developed a list of 87 baseline requirements that they agreed would

make the collaboration platform secure enough to handle their data. "For the first time, five of the largest aerospace companies agreed on what secure collaboration is and what it should look like," says Nigriny.

The key to success was enabling users from different companies to control the data they owned, regardless of where it was stored. "We had to set up a system from scratch by which the owners of the data could encrypt the data with keys that they possessed so that not even the Exostar site administrators could recover the data," says Andrew Jaquith, pro-

Continued on page 36



Jeff Nigriny

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“... the range of perspectives at Computerworld's Business Intelligence conference was particularly valuable, and the interaction between speakers and the audience was excellent ...”



Doug Busch, CIO, Intel

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MONDAY, SEPTEMBER 27

10:00am - 9:00pm Registration Open
Noon - 5:00pm Pre-Conference Golf Outing
7:00pm - 9:00pm Welcome Reception

TUESDAY, SEPTEMBER 28

7:00am - 8:30pm Registration Open
7:00am - 8:00am Buffet Breakfast
8:00am - 11:00am Opening Presentation and General Sessions



Keynote Speaker
Andreas S. Weigend, Ph.D.
former Chief Scientist, Amazon.com

11:00am - 12:30pm Concurrent End User Case Studies
12:30pm - 2:00pm Networking Luncheon
2:00pm - 4:45pm General Sessions
5:30pm - 8:30pm Expo with Buffet Dinner

WEDNESDAY, SEPTEMBER 29

7:00am - 8:00pm Registration Open
7:00am - 8:00am Buffet Breakfast
8:00am - 11:00am Opening Presentation and General Sessions



Keynote Speaker
Cecilia Claudio
EVP and CIO, Zurich Financial Services

11:00am - 12:10pm Concurrent End User Case Studies
12:10pm - 1:30pm Expo with Buffet Lunch
1:30pm - 5:00pm General Sessions
6:00pm - 8:00pm Gala Evening



The Palm Course
The JW Marriott
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Pre-Conference Golf Outing

Monday, September 27, Noon

Complimentary for Registered IT End-Users

The Pre-Conference Golf Outing at The Palm Course, located at the JW Marriott Desert Springs Resort, is complimentary (\$85 value) for registered IT End-Users. (Other participants, including sponsors and vendors, may play on an "as available" basis and are responsible for all applicable golf outing expenses.)

For details: contact Chris Leger at 1-508-820-8277



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Please check ONE of the following:

☐ I am an IT End-User

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☐ **\$995**
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Pre-Conference Registration
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IT End-Users are defined as those who are attending Business Intelligence Perspectives with an intent (and an IT spending budget) to potentially buy/lease hardware/software/services, etc. from our conference sponsors and are not themselves an IT vendor. As such, account representatives, business development personnel, analysts, and anyone else attending who does not have IT purchasing influence within their organization are excluded from the "IT End-User" designation. Interpretation and enforcement of this policy are at the sole discretion of Computerworld.

Attendee Profile: This section must be completed by IT End-Users only (optional for all other registrations) in order to process your application.

Your business industry

- ☐ Transportation / Utilities
- ☐ Mining / Oil / Gas
- ☐ Non-Profit / Trade Association
- ☐ Media / Publishing
- ☐ Banking
- ☐ Finance
- ☐ Accounting
- ☐ Insurance
- ☐ Real Estate
- ☐ Telecommunications
- ☐ Wholesale / Retail (non-computer)
- ☐ Computer Services Provider
- ☐ Advertising / Marketing / Public Relations
- ☐ Entertainment
- ☐ Education
- ☐ Food Industry
- ☐ Government / Military
- ☐ Healthcare / Medical Services
- ☐ Travel / Hospitality / Recreation
- ☐ Manufacturing (non-IT)
- ☐ Automobile

- ☐ Computers, Communications or Peripheral Equipment or Software Manufacturing
- ☐ Agriculture / Forestry / Fisheries
- ☐ Other

Your job title/function:

- ☐ CEO/COO/Chairman/President
- ☐ DOD/CIO
- ☐ VP/CM/ Director
- ☐ S/IT Director/Manager
- ☐ Other IS/IT Department Manager/ Supervisor
- ☐ Corporate/Business Staff
- ☐ Other Corporate/Business Manager
- ☐ Consultant (Internal) or Other

The use item that best describes your involvement in the IT purchase process:

- ☐ Authorize the purchase
- ☐ Approve the budget
- ☐ Initiate the purchase
- ☐ Evaluate / recommend products, brands, vendors
- ☐ Identify / establish the need to purchase
- ☐ All of the above

Number of employees in your entire organization (ALL locations)

- ☐ Over 10,000
- ☐ 5,000 - 9,999
- ☐ 1,000 - 4,999
- ☐ 500 - 999
- ☐ Less than 500

What is the estimated annual revenue of your entire organization?

- ☐ Over \$10 Billion
- ☐ \$1 Billion - \$9.9 Billion
- ☐ \$500 Million - \$999 Million
- ☐ \$100 Million - \$499 Million
- ☐ Less than \$100 Million

Your organization's annual IT/IS budget for all IT/IS projects

- ☐ Over \$1 Billion
- ☐ \$500 Million - \$999 Million
- ☐ \$100 Million - \$499 Million
- ☐ \$10 Million - \$99 Million
- ☐ \$1 Million - \$999,000
- ☐ Less than \$1 Million

What is your organization's primary vendor for BI/data management solutions?

- ☐ SAS
- ☐ Cognos
- ☐ Business Objects
- ☐ Oracle
- ☐ Hyperion
- ☐ SAP
- ☐ PeopleSoft
- ☐ MicroStrategy
- ☐ Sabal
- ☐ Informatica
- ☐ Microsoft
- ☐ Informatica Builders
- ☐ Other

What is your organization's most recent critical project within BI/data management this year?

- ☐ Creating the vision and strategy, Analyzing ROI
- ☐ Planning, designing, building the BI infrastructure
- ☐ Building - managing the operational information data
- ☐ Retrieval and reporting BI, ERP, CRM, SCM, eCommerce
- ☐ Data visualization, prediction and presentation
- ☐ Managing - enhancing BI applications and infrastructure

IT End-Users, would you like to receive information about playing in the golf outing on Monday, September 27th? ☐ Yes ☐ No

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☐ **I am a qualified member of the press.** I can verify my press credentials.

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- 1) He or she may substitute another attendee for this conference.
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- 3) The registration fee will be refunded, less a \$250 service charge (if written notice is received by September 3, 2004).

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Michigan's redesigned Crash system will help the state improve traffic safety and road design. Project contributors, from left to right, include Mary Wichman, manager; Jack Benac, project manager; and Douglass Couto, information officer.

MICHIGAN DEPARTMENT OF TRANSPORTATION

Redesigned Database Improves Traffic Safety

BY JAIKUMAR VIJAYAN

As a state that averages more than 450,000 traffic accidents annually, Michigan maintains a mountain of crash-related data.

But the 650,000 or so documents generated each year as a result of those accidents were maintained in an archaic 1970s-era mainframe, and it was hard for users to access the information for legal purposes or safety research, for example. Traffic accident data sometimes took two years to send its way into the system, known as Crash. And outdated data input methods often resulted in high error rates.

However, a recently completed multiagency project, called Crash Process Redesign, has changed much of that. The project involved representatives from the Michigan Department of Transportation (MDOT), the Michigan State Police and the Michigan Department of State — the principal users of the Crash database.

Under the project, the Crash database has been migrated to a new setting based on Oracle Corp.'s technology and Sybase Inc.'s PowerBuilder environment.

The heavily manual processes of the older system have been streamlined to a single process. Instead of retrieving data from mainframe magnetic tapes and storage cartridges, users can now access data via a browser-based interface.

The results have been gratifying, says Douglass Couto, information officer at MDOT. The gap between a traffic accident and data availability has been cut to 60 days. Processing and hardware costs have been reduced, as have data errors.

"We have identified about \$4 million in savings over the next three years in decreased cycle times and improved quality," says Jack Benac, project manager of the Crash redesign. More importantly, the redesigned Crash system will help improve traffic safety and road design by identifying accident risks and potential causes of traffic crashes and deaths, which cost the state \$9.4 billion last year, he says.

"The real return here is the reduced loss of life, which, to paraphrase a commercial, is priceless," Couto says.

But the upgraded database has also made it a lot easier for law enforcement officials to retrieve accident information, says Chief Arlan Winslow of the Imlay City Police Department. Winslow recently used the database to access information needed to apply for two road-improvement grants.

"Prior to having this in place, I would have had to contact the lo-

cal county road commissioner and the Michigan State Police to get the information," Winslow says.

The process, which used to take five to six business days, was instead accomplished immediately, he says. The revised database allows Winslow to quickly look for accident data using parameters such as location, time of day or number of accidents.

Key to the success of the project was the extensive collaboration that took place among the three principal stakeholders and others involved in the project, Couto says. It took nearly a year to gather business and technology requirements from multiple agencies, local governments, insurance companies, educational institutions and other users of the database. A joint governance structure that included representatives from each of the three major project owners provided daily oversight and served as an approval mechanism for ongoing budgeting and scheduling.

Development work was done with the help of Electronic Data Systems Corp. using Capability Maturity Model Level 5 from Carnegie Mellon University's Software Engineering Institute.

Ultimately, the fact that a redesigned database "could reduce accidents and maybe save some lives resulted in a level of commitment that I haven't seen in other projects," Couto says. **46937**

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■ **The Depository Trust & Clearing Corp.** — The world's largest financial services post-trade organization established backup facilities 1,000 miles from the New York ex-changes, helping to ensure uninterrupted clearance and settlement of securities (see story, page 29).

GOVERNMENT & NONPROFIT ORGANIZATIONS

■ **City of Cape Town** — The world's largest local government ERP system enhances the ability of 28,000 municipal employees to provide service to more than 3 million citizens.

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Continued on page 36



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■ **University of Michigan** – Multimedia technology enables the addition of a new set of Arabic-language courses to meet demand among nonacademics who will use Arabic in their business careers.

■ **Vizible Corp.** – People can now repurpose, package and share content without creative limitations, from any data source to any device.

MEDICINE

■ **Cogon Systems** – Placing complete information in a health care provider's hands at the critical "moment of care" when clinical decisions are being made improves operational efficiency and enhances patient care.

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SAT CORP.

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BY PATRICK THIBODEAU

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☎ 46896

Continued from page 32
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ROBERTSON RESEARCH INSTITUTE

Software Gives Doctors a Virtual Second Opinion

BY EUGENE A. DEMAITRE

In a developing nation, a physician enters his observations of a patient's condition into a tablet computer. A user-friendly application compares the data to a massive knowledge base, then requests additional information from the physician to facilitate a rapid and accurate diagnosis through a unique "virtual dialogue."

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According to Dr. Joel Robertson, founder and CEO of Saginaw, Mich.-based RRI, the organization has been working on NxOpinion (pronounced "next opinion") since 1992, when he decided to provide physicians with "exception-based, rapid diagnostics, for when a person fits the textbook case but doesn't get better."

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"Other databases require doctors to have a medical informatics background. We want NxOpinion to be usable by any physician," says Robertson.

"The output must be equally user-friendly as the input," he says, adding that NxOpinion is a mobile technology that could eventually "reside on a PDA, tablet computer or PC and be updated when those devices are synced."

"Evidence-based medicine is especially important in helping physicians [in developing nations] make a diagnosis when they may have only one chance to refer a patient to a specialist," says Dr. Mark Bates, medical director of the NxOpinion project.

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The world's third-most-powerful supercomputer is created from scratch in three months using PCs, dramatically lowering the cost of advanced scientific research.

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Rapid analysis and reporting of more than 20 million rows of complex revenue and cost data per month give the small airline the ability to compete against industry giants.

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ROBERTSON RESEARCH INSTITUTE

finalists

Continued from page 33

- **Infineon Technologies AG** - Development of a radical new manufacturing planning system, capable of handling new complexities, allows a busy manufacturing system to upgrade without disruption.
- **Kirchener Corp.** - Constantly traveling jewelry sales representatives enter new orders through wireless handheld PDAs on the spot, increasing accuracy and factory flexibility while reducing delivery times to the customer.
- **Novalux Inc.** - Intensive simulation of fundamental physics enables the design and production of a radical new laser that can be 50 times smaller and two orders of magnitude more efficient than previous devices.

MEDIA, ARTS & ENTERTAINMENT

- **Apple Computer Inc.** - A digital music jukebox provides Windows and Macintosh users with a fully integrated music store.
- **Kasenna Inc.** - A dramatic reduction in bandwidth requirements allows even small organizations to offer video on demand, lowering the cost of training.
- **Museum of Modern Art (New York)** - A streamlined interface reduces the number of Web site clicks by 75%, serving more than 4,000 pages to the museum's constituency and maintaining connections during major renovations.
- **Reuters Group** - Pioneering use of live and on-demand video delivers company news to employees in 197 offices in 94 countries.
- **American Museum of the Moving Image** - Ultra-high-capacity tape drives enable the high-resolution scanning, storage and retrieval of key items from a collection of 100,000 films, recordings and images.
- **University of Michigan** - Multimedia technology enables the addition of a new set of Arabic-language courses to meet demand among nonacademics who will use Arabic in their business careers.
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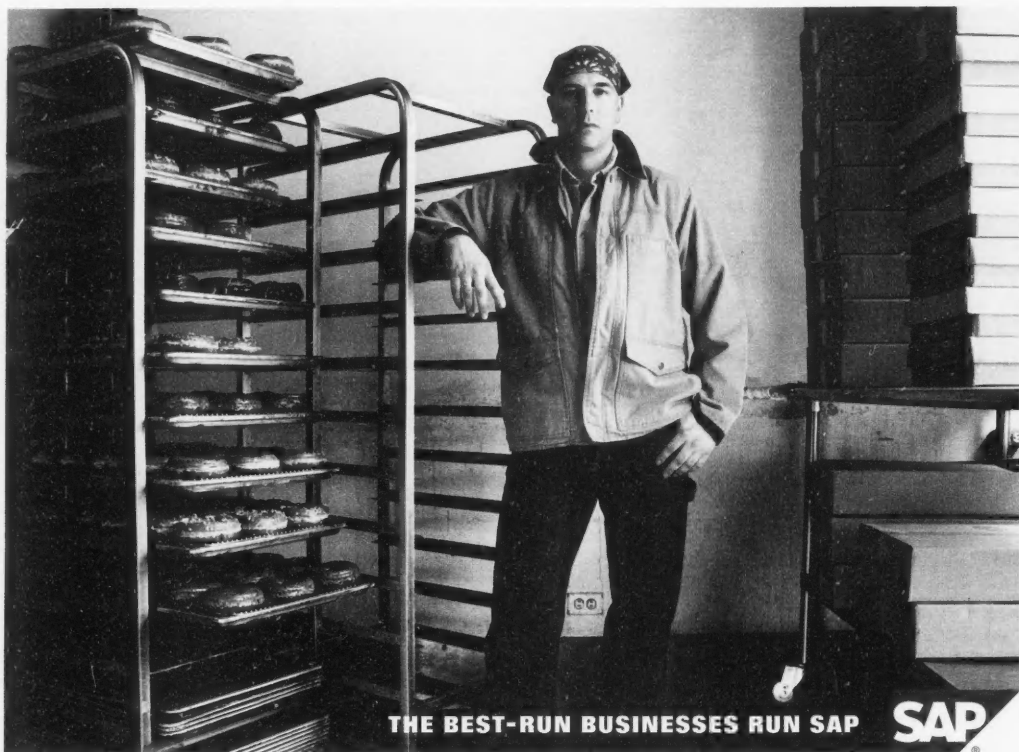
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PHOTO COURTESY OF ROBERTSON RESEARCH INSTITUTE

COMPANIES THAT THOUGHT THEY COULDN'T AFFORD SAP RUN SAP



THE BEST-RUN BUSINESSES RUN SAP

SAP

You don't have to be big to think big. Or to run SAP®. With a variety of solutions for small and midsize businesses, SAP is an affordable choice for growing companies. Working with partners experienced in your industry, SAP can deliver scalable solutions to make your business run more efficiently. And do it faster than you ever thought possible. Visit sap.com/value or call 800 880 1727 to see big ideas for your company.

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FUTURE WATCH

The Cognitive Personal Assistant

Carnegie Mellon University researchers are developing an artificial-intelligence-based system that may eventually help schedule meetings and prioritize e-mail for busy managers. **Page 41**

SECURITY MANAGER'S JOURNAL

Wireless Hackers Leave No Tracks

Vacationing Vince Tuesday discovers that sloppy security on home WLANs gives hackers a launching pad for truly anonymous attacks. **Page 42**

OPINION

Pentagon Devises Innovative IT Strategy

Pressure to maintain existing systems and meet new challenges has turned the DOD into an innovator in supporting real-time responsiveness across an enterprise, says Paul A. Strassmann. **Page 44**



WHEN THE ECONOMY surged in the late 1990s, office furniture maker Haworth Inc. rode the wave. A booming demand for new office space plus several acquisitions propelled the 52-year-old company to \$2 billion in sales in 2002, making it the world's second-largest designer and manufacturer of office furniture.

As the recession deepened, Holland, Mich.-based Haworth took a double hit: Not only did sales stall as customers retrenched, but a glut of used furniture also hit the market as dot-com companies bombed. Sales plunged 40%.

Looking for ways to bring costs back in line with revenue, Haworth in 2002 embarked on an ambitious program to overhaul its supply chain systems. It has completed a \$14 million rollout of transportation and warehouse management systems that have slashed freight costs, boosted the efficiency of warehouse workers and produced unexpected qualitative benefits.

FIELD REPORT

Together, these two systems manage the flow of Haworth products from manufacture through delivery to the customer. The Transportation Management System (TMS) consists of an optimization package called NetWorks Transport and a carrier communication module called NetWorks Carrier from Manugistics Group Inc. in Rockville, Md. The system looks at customer orders, factory schedules, carrier rates and availability, and shipping costs and produces optimum, lowest-cost delivery plans. Plans are produced daily and updated every 15 minutes. The system also has an automated interface that lets Haworth negotiate deliveries with its carriers.

The Warehouse Management System (WMS) is a customized version of IristaWarehouse from Irista Inc. in Milwaukee. It tracks and controls the flow of finished goods from the receiving dock at any of Haworth's three dis-

tribution centers to the customer site. Acting on shipping plans from TMS, WMS directs the movement of goods based on real-time conditions of space, equipment, inventory and personnel.

Haworth's objective for TMS was to optimize deliveries from the standpoint of freight cost, says Micheal Moon, vice president for global information services. That required mapping out more

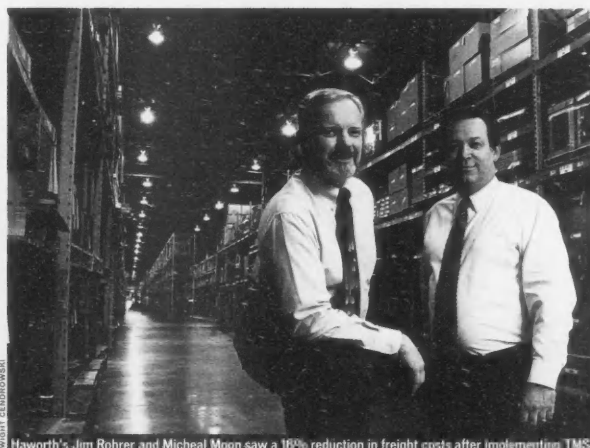
efficient routes, minimizing "less-than-truckload" shipments and reducing damage to goods.

The goal for WMS was to reduce labor costs in the warehouse using several methods, including "cross-docking," which lets goods earmarked for a specific customer move directly from the receiving dock to the shipping dock without being checked into the system

and then picked from inventory.

It's a tricky environment for a number of reasons, Moon says. For example, a shipment might have to meet a strict 15-minute delivery window on a dock in New York. And, he says, it isn't a simple matter of delivering a monolithic order, like a crate of oranges.

"You take a standard workstation like this," Moon says, waving his arm



Haworth's Jim Rohrer and Micheal Moon saw a 16% reduction in freight costs after implementing TMS.

Haworth's Supply Chain Project

OBJECTIVES: Cut costs and boost efficiency by moving to new warehouse and transportation management systems that:

- Deliver multipart product shipments requiring assembly in correct sequence.
- Accommodate shipping volumes that can vary by factor of 10 from one day to the next.
- Is flexible enough to accommodate last-minute customer order changes.

CHALLENGES: The warehouse management system, built on a customized version of IristaWarehouse, couldn't keep up with Haworth's high transaction volumes. But Haworth's database administrators were able to work with the vendor to resolve the problem.

PAYOFF: Productivity of warehouse workers increased 35%, freight costs were reduced 16%, and "less-than-truckload" shipments declined 50%. Damage to goods in-transit was also reduced by half. The transportation management system paid for itself in nine months.

Refurnishing THE Supply Chain

Office furniture maker Haworth Inc. slashed its warehousing and shipping costs by redesigning its transportation and warehouse management systems. **By Gary H. Anthes**

around his modular office. "You've got the walls, the desk, the overhead files and so forth. All these may come from different manufacturing sites, all coming together at a distribution center and then to the customer site in a sequence that allows them to install it. And maybe the customer wants to install his furniture over the weekend. You can't have missing parts off the truck, or he may not be able to move in on Monday."

TMS replaces a mostly manual system aided by spreadsheets and driven by "tribal knowledge," Moon says. "Tribal knowledge told you that if you are going to Texas, you don't want to stop in Alabama on the way, because it's a little detour." But the optimization software sometimes comes up with counterintuitive solutions, he says, and it just might tell Haworth planners that the freight savings from filling the truck with the Texas and Alabama orders more than offset the cost of the detour.

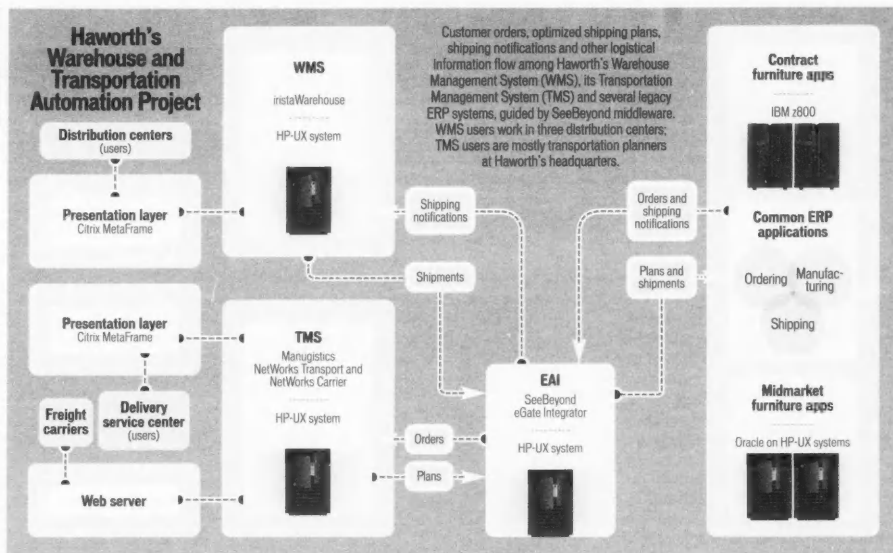
Moon says Haworth was counting on a 12% reduction in freight costs from TMS but is actually seeing 16%. The system paid back the initial investment in nine months — 15 months ahead of schedule. Partial-truckload shipments, which are inefficient and often lead to damaged goods, have been reduced by half. And the labor-cost savings from WMS is "significantly beyond" the 10% to 12% goal, he says.

Middle Ground

TMS and WMS run on Hewlett-Packard Co. Unix servers. They interface with two sets of order entry, manufacturing planning and shipping systems that service two different furniture markets. One is served by an IBM mainframe system and one by an HP Unix system running an Oracle client/server database. To tie the applications on these systems together, Haworth uses eGate Integrator, an enterprise application integration tool from SeeBeyond Technology Corp. in Monrovia, Calif. It passes customer orders, shipping plans and shipping notifications among the applications (see diagram).

The SeeBeyond middleware is crucial because of all the disparate systems Haworth has inherited through acquisitions, Moon says. "It really is the magic. We found that the ability to plug into that black box anywhere you need to — Baan, Oracle, legacy systems and many others working together — has really been a key to success. It's allowed us to move a lot faster than if we'd had to build all these single interfaces."

Another key piece of middleware is MetaFrame virtual user interface soft-



ware from Citrix Systems Inc. in Fort Lauderdale, Fla. That allowed Haworth to move most of the TMS client code from the remote distribution centers to a central Citrix server in Michigan, freeing up network bandwidth and simplifying software-distribution chores.

"The volume of data going back to [TMS] was quite extensive, and if we had to go to local desktops, that would really increase network traffic," says Brian Kovatch, manager of information systems applications design.

The TMS project went smoothly, partly because the system went in with no customizations and partly because Manugistics had two full-time consultants on-site for a year.

WMS was a bit more problematic. "In the case of WMS, there were some performance concerns, and our database administrators worked closely with the Irista people to help them understand where some of the flaws were," Kovatch says. Haworth's staff helped Irista tune some SQL statements that were inappropriately coded, he says, adding that "the vendor wasn't accustomed to our volumes and need for response time." WMS processes some 17,500 transactions per day.

Haworth also considered warehouse management products from Optum Inc. and Provia Software Inc. but stayed with Irista because of "the functionality and their willingness to work with us," says project manager Tim Boak. Asked if Haworth considered developing a system in-house, he says, "I

think the view was that's what we already had."

Jim Rohrer, a business applications process manager and the key liaison between IT and the supply operations at Haworth, says the new systems haven't just optimized business processes; they've also fundamentally transformed them. "The distribution centers were accustomed to getting information on labels or on screens, then deciding what to do with it and then reporting back what they did. I call that a 'signpost' system," he says.

Now it's more of a "directed" system, Rohrer explains. "TMS sets up a plan and feeds it to WMS, and WMS says, 'Here's what's to be done; here's your task list.' It greatly reduces the amount of time it takes a new employee to get productive," he adds.

Additional Payoffs

Senior project leader John Stewart says that while many software vendors have supply chain systems, relatively few of the packages include optimization — the ability to evaluate a huge number of order, carrier and route combinations and come up with the lowest-cost ones.

Haworth looked at five companies and narrowed it down to Manugistics, Optum and i2 Technologies Inc. It chose Manugistics because of its "great references and product features," Stewart says. TMS was able to handle Haworth's complex requirements without a single modification, he notes.

Reductions in freight costs and warehouse labor have been the most easily measured benefits from the new systems, but Haworth has also seen other payoffs. TMS sends carriers "tenders" — requests to bid on a shipment — via electronic data interchange or the Web and gets bids back automatically. That process used to require two phone calls. Now, if an answer isn't received within a specified time, the system automatically tries another carrier, says Lydia Knowles, delivery service center supervisor.

TMS has improved customer service in other, more subtle ways, Knowles says. "One of the major benefits of TMS is the connectivity between the expertise we have in-house and our customer needs," she notes. "Our awareness of cause and effect increased dramatically."

Indeed, says Joseph Bardowski, director of logistics, "visibility and optimization are equally important." Forty percent of the total system benefits can be attributed to things such as the ability to project scheduled shipments further into the future and the ability to get previously unavailable performance metrics out of the system, he says.

Q 46857

FACING THE HUMAN FACTOR

Getting users to accept the new system meant keeping them in the loop, from the development phase through final rollout.

QuickLink 46848
www.computerworld.com

THE Cognitive PERSONAL ASSISTANT

BY THOMAS HOFFMAN

AI-BASED SYSTEMS COULD HANDLE
ROUTINE ADMINISTRATIVE TASKS.

RESearchers at Carnegie Mellon University are developing a computer-based administrative assistant that draws upon artificial intelligence (AI) techniques to perform routine tasks such as scheduling meetings for busy managers and filtering and prioritizing their e-mail.

One caveat: It won't pick up your dry cleaning.

The project, called Radar (short for Reflective Agent with Distributed Adaptive Reasoning), is being funded by the Defense Advanced Research Projects Agency under a program called PAL, or Personalized Assistant that Learns. DARPA provided the Radar project, which was launched in May 2003, with \$7 million in first-year funding.

"What we're trying to do is build an assistant for any busy manager who's overloaded with requests," says Scott Fahlman, a research professor of computer science at Pittsburgh-based Carnegie Mellon. More than 25 researchers spent Radar's first year focused on things such as teaching the system to classify e-mail and then optimizing its learning algorithms.

According to Fahlman, Radar will handle some routine tasks by itself, ask for a supervisor's confirmation on others and produce suggestions and drafts that its user can accept or modify as needed.

For instance, suppose a manager receives an e-mail from a colleague

requesting some slides. Fahlman and his team are trying to optimize the Radar system to understand the request at a basic level, draft a response and notify the manager with a message like, "Here's my proposed answer; do you accept this?" and then await the manager's response.

Radar isn't intended to act just as an e-mail filtering system, Fahlman says. As a text-in, text-out system, there's "a huge opportunity" for one Radar system to "talk" with another Radar system, schedule meetings and draw information from or post it to a company's Web site, he explains.

But, Fahlman notes, any release of information by Radar is under control of the system's user, who has the last word on the privacy policies to be observed by the automated assistant.

Using AI, Radar will draw on statistical and symbolic learning. Say a manager demonstrates a tendency to deny e-mail requests to hold meetings on Fridays over the course of a few months. Radar will pick up on this pattern and send a message to the manager asking whether the manager prefers to avoid meetings on Fridays. The manager can then respond back to Radar that it should avoid scheduling meetings on Friday mornings but that Friday afternoons are OK, explains Fahlman.

"What we're trying to do is blend the best of both statistical and symbolic learning," he says.

Applying AI to natural-language understanding is hardly a new concept

— researchers have been working on this for at least 25 years, Fahlman notes. But much of the research has centered around problem-solving, and Radar is "trying to move that work forward," he says.

Researchers who work on machine learning "have a number of tools and approaches that can be applied to [understanding] people's social networking skills," says Dan Siewiorek, director of the Human-Computer Interaction Institute at Carnegie Mellon.

Some of the technical challenges that Fahlman and Siewiorek have encountered include trying to provide Radar with a sufficient amount of natural-language understanding. Another challenge, says Fahlman, is equipping Radar to build upon a body of knowledge and programming it to learn from its mistakes over time.

At this point, Radar is being taught to learn through its interaction with text. However, it's possible that Radar could be taught to understand human speech once the project gets further along, notes Siewiorek.

The Radar project "is an interesting concept," says Martin Colburn, chief technology officer at National Association of Securities Dealers Inc. in Rockville, Md. Earlier in his career, Colburn developed mortgage underwriting tools with AI engines that simulated the trade-offs an underwriter makes when looking at underwriting guidelines. "This clearly has some applicability," he says. Colburn adds that the system could be applied to workload management, such as filing, archiving or retrieving documents.

Although Radar is being funded by DARPA for military use, there may also be commercial applications that

Glossary

Statistical learning — An approach to machine intelligence that's based on statistical modeling of data. With a statistical model in hand, one applies probability theory and decision theory to get a learning algorithm.

Machine learning — Acquiring knowledge automatically from source data and other computer-generated information. The most frequently used techniques include symbolic- and inductive-learning algorithms.

Symbolic learning — Automated techniques based on rote learning, learning by being told, learning by analogy, learning from examples and learning from discovery.

Natural-language processing — Automated analysis, understanding and generation of language that humans use naturally.

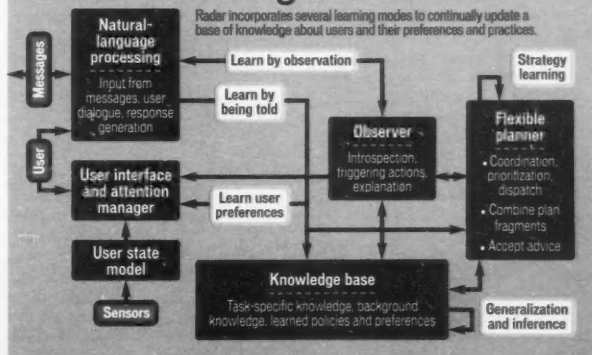
SOURCES: CARNEGIE MELLON UNIVERSITY AND THE UNIVERSITY OF ARIZONA

spin off of the research once the project is concluded in the spring of 2008, says Fahlman, who notes that the military and civilian applications are very similar. Although Fahlman is quick to explain that Carnegie Mellon "is not in the business" of packaging commercial applications, he did say that there could be spin-off companies, or other companies could end up licensing the technology.

Siewiorek points out that Radar isn't intended to replace administrative assistants but simply to, um, assist them. Says Siewiorek, "[Human] assistants are limited in their capacity in being able to put a supervisor's whole life together. A machine-based assistant can multitask." **47065**

FUTURE WATCH

Radar Learning Architecture



SOURCES: CARNEGIE MELLON UNIVERSITY AND DARPA

Wireless Hackers Leave No Tracks

Unprotected WLANs give hackers an untraceable way to launch attacks across the Internet. By Vince Tuesday

I'M A PARASITE. I didn't pay for the bandwidth I'm using right now. I didn't ask for permission to use it—I don't even know whom to ask. But I'm on holiday. I have a few bits of work to finish up before I can relax, and I need to send my e-mail.

The broadband service in the rented house doesn't work, so I stuck in my wireless LAN card and found two WLANs covering the house. One has a Secure Set Identifier of "lopez" and has Wired Equivalent Privacy turned on; the other has an SSID of "default" and no WEP.

My wireless card has automatically associated with the "default" base station, which gave me a Dynamic Host Configuration Protocol address. Now I'm connected to the Internet at 11Mbit/sec. with no fee and no restrictions on what I can do.

When WLANs hit the mainstream a few years ago, the security focus was on confidentiality, and vendors included WEP to encrypt data in the air. WEP has flaws—it might not stop a snooper in your parking from reading your data—but just the fact that "lopez" had it turned on was enough to turn my attention elsewhere. Why hack "lopez" when "default" is sending in the clear?

But having data sniffed from the air isn't the real threat that wireless poses. That problem is easily solved by using cryptography. A bigger worry is "de-perimeterization," which is a fancy way of saying that the walls of the normal fortress model are falling away,

thanks in part to wireless. In the good old days, you inventoried all external connections and put firewalls in front of them. Now, nearly every organization has so many connections to the outside that it isn't feasible to set up firewalls to control access to all of them. If your wireless users need access to all of the internal services, what can you block with a firewall?

And if you're a hacker, why bother trying to intercept data from the traffic flying about when you can just connect to the network and

pretend to be a legitimate client? Once you become a full node on the network, you don't have to wait for a client to connect to download the information you want and sniff it. Instead, you can just waltz right in and take what you want. This is a lot less covert, but unless the target has a hair-trigger intrusion-detection system configuration and very good triangulation equipment, you probably won't be discovered.

My company's authorized

wireless access points have strong authentication, so only legitimate clients can connect, but all our exterior defenses might be for naught if a staff member plugs in a \$99 access point.

To protect against this, my team and I run regular sweeps to check for illegitimate access points that might allow unauthorized users to connect. We had a few early run-ins with staff when we began the sweeps, but now the authorized service is so good that everyone is happier using that than they would be trying to sneak new equipment into the office.

Insecure Access

In these sweeps, we've detected many access points that are transmitting from outside the company walls. It's interesting to see that all the bars and restaurants near our offices have WLANs for waiters to send orders to the kitchen. All are insecurely configured. However, since the worst anyone could do is jump the queue for ordering drinks, perhaps the low level of protection is all that's necessary.

The only time I really went white was when a sweep at my company identified more than 30 unauthorized access points on a single floor. I couldn't imagine why an entire department would go crazy and try to provide its own competing WLAN service.

But when I tried to connect to one of the access points, I could get only a printer service Web page. It turned out that our printer vendor had shipped a batch of printers with wireless printing support enabled by default. Each was functioning as a WLAN access point. We disabled the cards and asked the vendor to do the same with future orders.

Rogue access points in the office are a problem we can solve, but the real WLAN problem that strikes terror into my heart is the home user.

Before WLANs, if I were a hacker or virus writer or if I wanted to download or share illegal material, I had limited options. I could use my own account and eventually get caught after the feds tracked the abuse back to me. I could steal an AOL account by phishing until the feds used phone traces to catch me. Or I could wander into a Web cafe, do my evil deeds and flee, leaving closed-circuit TV footage, fingerprints and physical evidence the feds could use to put me behind bars.

With WLANs, things have changed. On most streets in big metropolitan areas, a few people have broadband, and at least one uses it with an insecure wireless connection. Perhaps half of those people turn on the Windows XP firewall, but that won't stop an attacker. They just get within range and connect. There's no physical evidence, no closed-circuit TV, and the poor schmuck whose broadband connection gets used is the one whom the feds raid.

So while the WLAN connection I'm using now is helpful to me as I finish up my work while on holiday, someone else could just as easily be using it to launch attacks before disappearing anonymously back into the night.

There's no chance that home users will move to two-factor authentication for their wireless networks, so I'm making sure that my current designs for Web-facing infrastructure don't rely on being able to track down and stop attackers. Clearly, that's no longer possible. ▀

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Vince Tuesday," whose name and employer have been disguised for obvious reasons. Contact him at vince.tuesday@hushmail.com, or join the discussion in our forum: [QuickLink atf590](http://www.computerworld.com/secjournal)

To find a complete archive of our online Security Manager's Journals, go online to [computerworld.com/secjournal](http://www.computerworld.com/secjournal)

SECURITY LOG

Security Bookshelf

■ *Secure Architectures With OpenBSD*, by Brandon Palmer and Jose Nazario; Addison Wesley, 2004.

OpenBSD is the poster child for secure production operating systems. The team that wrote it takes a paranoid approach to the default configuration.

For example, the compiler defaults to include buffer overflow protection in every program compiled.

This code might be one of the safest on the planet, but many OpenBSD advocates come across as wide-eyed and paranoid.

Certainly, most companies will continue to buy less-secure operating systems. But this book might change the minds of a few users who have been put off by OpenBSD's reputation as difficult to master. It's well written by authors who don't seem to suffer the over-the-top passions of other OpenBSD advocates.

This book could be just the thing to turn your computer into a well-protected system. It covers everything from setting up and using the system to developing under OpenBSD—and it had the answer to every question I had when setting up a test OpenBSD system.

—Vince Tuesday

Wireless Security Wake-up Call

A global survey of 100 financial services companies, including 31 of the top 100, drew these answers from respondents:

- 33% Said they have issued employee guidelines for safe use of WLANs.
- 45% Said they have scanned networks to detect rogue WLAN access points.
- 59% Said they have instituted WLAN security policies.

SOURCE: DELLOITTE & TOUCHE LLP, 2004

**SECURITY
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“

Rogue access points in the office are a problem we can solve, but the real WLAN problem that strikes terror into my heart is the home user.



i want to **stop** thinking about the threats that could fill my network,

and **start** thinking about the people that could fill this space.



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BRIEFS

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Maximo Nuclear Manages Assets

MRO Software Inc. in Bedford, Mass., has introduced Maximo Nuclear, an asset management system for the nuclear power industry. Maximo Nuclear supports work, asset and supply chain management processes and runs on all major operating systems, the company said. An average implementation costs \$500,000 to \$650,000, according to an MRO spokesman.

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PAUL A. STRASSMANN

Pentagon Devises Innovative IT Strategy

IN A TALK IN MARCH, John Chambers, the knowledgeable CEO of Cisco Systems, noted that the U.S. Department of Defense is emerging as a pioneer in systems architectures. The DOD has become an innovator in supporting real-time responsiveness across an enterprise.

Noteworthy is the technology guidance from Deputy Secretary of Defense Paul Wolfowitz and the just-retired DOD CIO John Stenbit. They proposed strategies to cope with the war on terrorism as the DOD finds itself saddled with a computing and telecommu-

nications infrastructure that consumes over half of the department's IT resources [QuickLink 40856]. The DOD doesn't have sufficient capabilities to meet rising operational requirements. Just about all of its assets are mortgaged to keep the existing systems running. Only a radical transformation, now defined as the Global Information Grid (GIG), can offer a viable way to achieve real-time interoperability among defense systems.

Suppliers and contractors are replacing obsolete technologies with lower-cost products and services, but that won't yield sufficient funds to pay for urgently needed innovations. There isn't enough time to gradually swap old technologies for new ones, as has been the practice for half a century. New needs can be satisfied only by speedy changes in the ways systems are designed and operated.

The DOD is stuck with the fixed costs to support well over \$1 trillion worth of accumulation from mainframe- and desktop-centric acquisitions. To escape that bondage and confront rapidly rising threats to our security, the DOD has come up with an architecture that meets the new requirements at materially lower costs. It's an architecture that makes it possible to migrate rapidly without the



PAUL A. STRASSMANN (paul@strassmann.com), once served as the director of Defense Information. The GIG plans - at least on paper - look like dreams that ought to come true.

resulting chaos seen in the efforts to modernize information systems for the Navy and the Marine Corps.

The objective of the GIG is to move all DOD applications from the current broadcast, point-to-point and interapplication communications to a virtual and secure, enterprisewide ultrawideband bus. It's based on the operating doctrine of "posting information and knowledge for real-time availability" by means of "universal data-element-level interoperability." This

is quite a mouthful, but it means that the GIG will (1) support the entry of data to readily accessible files as early as possible, and preferably at the point of origin; (2) provide users with the improved capability to pull whatever data they need, whenever they need it; and (3) ensure that information security measures are applied at every point of entry and exit from the GIG.

The central capability of the GIG will be to deliver Six Sigma-quality secure messaging, collaboration, services management, content assurance, knowledge discovery and enterprisewide archiving services. The GIG will provide visibility, access and delivery of information services to all of the DOD as well as to others engaged in national security. It will

enable authorized and individually authenticated persons to search the networks for information services.

The GIG represents a fundamental shift to a service-oriented view of what an information infrastructure must make feasible. It requires a dedicated and fully assured network environment, populated with information that's readily available, secure, reliable and scalable on demand - not just as specified in budget estimates. To the extent possible, the GIG will use existing applications via standard middleware gateways for eventual migration of all information assets into the GIG architecture.

The Pentagon accumulated incompatible hardware and noninteroperable software because it relied on obsolete assumptions about technology acquisitions. To save money as it moves to its GIG architecture, the DOD must take a new approach that involves the following steps:

- Substitute communications bandwidth for computing hardware.
- Rely on standardized data in lieu of costly integration of unique data. All data will have associated metadata to help users discover the utility of shared data.
- Replace wired networks with wireless connectivity.
- Eliminate application-specific architectures for enterprisewide grid systems.
- Eliminate on-site support for fixing hardware and software by using preventive remote diagnostics.
- Apply middleware interfaces to deal with nonstandard data definitions.
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The GIG architecture is a breakthrough in thinking about all information infrastructures. It's worthy of consideration by every CIO, whether in business or in government. The development of the GIG warrants watching because it's based on an approach that applies to all who depend on information superiority to compete. **Q 4255**

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Think Tank

Legal services for IT contracts may be the next function moving offshore; plus, ups and downs among software vendors and best bits of recent IT management books. **Page 48**



OPINION

Getting to Done

You can't complete an IT project successfully if you haven't defined success, says Paul Glen. He suggests that project managers think beforehand about how they'll know when the job is done. **Page 52**

WITH TECHNOLOGY costs representing more than half of all capital expenditures at many companies, CxOs are pressuring IT managers to more closely measure returns on technology investments.

"For the average company, one out of every 50 revenue dollars is being spent on an IT project, and someone is going to watch it," says Howard Rubin, executive vice president at Meta Group Inc. But while some companies have taken steps to teach IT managers how to understand and even apply financial calculations such as internal rate of return (IRR) and net present value (NPV), many others haven't, and the financial acumen of tech managers is all over the map.

"Probably 80% of the companies I work with are using financial techniques" such as NPV, says Barbara Gomolski, an analyst at Gartner Inc. and a *Computerworld* columnist. She estimates that half of the midlevel IT managers at those companies have received some financial training, and the rest are assisted by their finance or accounting divisions.

But Mark Cotteleur, an assistant professor of management at Marquette University in Milwaukee, says financial training for IT managers isn't widespread at all, and companies often rely on vendors to calculate return on investment.

"I hardly think that's the most appropriate way to do it, since [vendors] have a vested interest to make sure the right answer comes out at the other end," says Cotteleur, who is also a consultant at Arlington, Mass.-based Cutter Consortium.

An ongoing survey of 180 IT executives from Fortune 1,000 companies that has been conducted since November 2002 reveals that 46% of IT staffs lack a basic working knowledge of financial concepts.

BY THE NUMBERS

Among Fortune 1,000 IT leaders surveyed:

82% say estimating IT benefits is a major challenge.

68% don't track project benefits.

74% don't track actual financial metrics after making an investment decision.

46% say IT staffers lack sufficient working knowledge of financial concepts.

89% don't use earned value to track project success.

46% say they lack good metrics for measuring value.

28% say they lack staff and resources to gather and analyze data.

BRIDGING THE FINANCIAL SKILLS GAP

Some companies are teaching IT managers how to calculate the financial payoff of IT projects. But there's lots of room for improvement. **BY THOMAS HOFFMAN**



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MANAGEMENT

06.07.04

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46% say IT staffers lack sufficient working knowledge of financial concepts.

89% don't use earned value to track project success.

46% say they lack good metrics for measuring value.

28% say they lack staff and resources to gather and analyze data.

BRIDGING THE FINANCIAL SKILLS GAP

Some companies are teaching IT managers how to calculate the financial payoff of IT projects. But there's lots of room for improvement. **BY THOMAS HOFFMAN**



SOURCE: 2002 SURVEY OF 180 FORTUNE 1,000 IT LEADERS BY THE KELLOGG SCHOOL OF MANAGEMENT AT NORTHWESTERN UNIVERSITY AND DIAMONDCLOUD INTERNATIONAL INC.

GLOSSARY

Here's how the Kellogg School at Northwestern University defines financial terms in its 2003 white paper, "IT Portfolio Management":

RETURN ON INVESTMENT (ROI)

The total quantitative savings or return, in hours, dollars or other measurable units, generated by an improvement effort, divided by the total cost of that effort.

NET PRESENT VALUE (NPV)

The sum of the discounted cash flows expected from a business project, less the investment amount. The cash flows are discounted at the company's cost of capital. In theory, projects with NPV greater than zero should be funded.

INTERNAL RATE OF RETURN (IRR)

The compounded annual growth rate of a project's net cash flows. In theory, a proposal with an IRR greater than the cost of capital should be accepted.

Mark Jeffery is an assistant professor of technology at the Kellogg School of Management at Evanston, Ill.-based Northwestern University, which is running the study. He says companies that invest in training IT managers in financial know-how tend to generate higher returns on their technology investments and have better controls in place than their peers. "Firms that are good at what they do invest in their people to improve their financial skills," says Jeffery.

Some companies, such as Wachovia Corp., have been providing financial training to IT managers for years. Since

the late 1990s, the Charlotte, N.C.-based financial services company has required IT and other managers to apply NPV and break-even calculations to all investments greater than \$250,000, says Ginny Hartsema, chief financial officer for operations, IT and e-commerce. "We believe that financial management is a key competency [for] managers," she says. "It isn't sufficient for them to be technically capable and not be able to grasp financial principles."

Wachovia provides managers with formal training from its corporate finance group as well as more detailed training from Hartsema's group. Wachovia also plans to roll out a set of training modules by midyear with tutorials that range from understanding corporate earnings and revenue figures to creating accurate financial project estimates, says Hartsema.

Top 40

At Dublin, Ohio-based Cardinal Health Inc., IT managers use a list of 40 top priorities to ensure that a project is staying on track and aligned with the business. One of those priorities is that a project is meeting its financial targets. The IT division at the \$50 billion-plus provider of health care products and services created a business-integration group three years ago that works with departments such as sales and purchasing to create a business case for each IT project and to determine the best way to measure it, says Steve Peale, vice president of IT.

Members of Cardinal Health's business integration group, which now numbers 40 people, have attended seminars and received 520 hours of

HIGH-STAKES IT INVESTMENTS

ONE COMPANY RECOGNIZED as a leader in IT financial management is Harrah's Entertainment Inc. Ten years ago, the Las Vegas-based casino operator established an IT business office composed of finance and accounting professionals who manage the company's portfolio of IT projects and its day-to-day IT operations [QuickLink 46150].

The office works with application development and support teams to build detailed annual project budgets and monitor performance against those budgets monthly. It also works with Harrah's capital committee to embed NPV and IRR calculations and systematically monitor IT investments, says Heath Daughtrey, vice president of IT services.

In addition, the company is increasingly applying return on invested capital as a barometer of how its IT investments are faring. "We focus on return on invested capital as a key performance indicator when evaluating investment decisions," Daughtrey says.

At Harrah's, much of the training for its 275-person corporate IT staff has been focused on its portfolio management techniques, says Daughtrey. "At the core of portfolio management is whether you're working on the right stuff," he explains. That's not just about measuring

whether an IT project is meeting its financial targets but also determining its impact on operations continuously, he says.

Last summer, Harrah's created a Financial Management 101-type course for staffers who have financial responsibilities, as well as new IT hires. The half-day session familiarizes IT workers with how Harrah's IT group accounts for and manages its IT operations, sets and monitors project budgets, and does accounting. It teaches them how to read financial statements "and walks through many of the core financial and accounting concepts that we use," says Daughtrey.

One of the ways Harrah's measures the effect of its IT financial training is through efficiencies in its own annual budgeting process. The bottom-up data-gathering and development of the annual plan used to take two months to complete, says Daughtrey. Last year, the collection of all of the core data took one to two weeks. "That's the best annual planning cycle we've ever had," he adds.

Moreover, by incorporating detailed monthly and quarterly financial reviews of its IT financial performance, Harrah's was able to bring its 2003 IT operating results to almost 0.4% under the approved operating budget, says Daughtrey.

—Thomas Hoffman

business-case and ROI training over the past two years. The group initially consisted of business people who were interested in learning technology, Peale explains. "As we've grown the group, we hired a number of people with technology management skills who knew how to present a business case," he says.

To help measure the success of its financial training, Cardinal Health tracks whether IT projects are on time and within budget. In addition, the company gauges the number of projects that have been launched without help from the business integration group, a figure that's practically down to zero, says Peale.

Hedging Bets

For the past 18 months, IT managers at Uncasville, Conn.-based Mohegan Sun Casino have received instruction from the organization's financial consultants on understanding IRR, NPV and ROI calculations, but it's the finance staff that does the actual number-crunching on IT projects, says Dan Garrow, CIO

and senior vice president of information systems. "I want the objective evaluation of IT from finance," he explains.

Although Garrow says the company's 124 IT workers have improved their ability to accurately estimate project cost savings, it's too early to effectively quantify their success. "We also need to do a better job of following up and measuring whether forecasts have hit their targets," he says. "Many times, it's difficult to get back to projects you've implemented when you've got four or five projects waiting to be started. There's almost no downtime to give us that time to measure."

In the end, says Wachovia's Hartsema, financial training for IT managers can only go so far if you don't have the right corporate culture in place to support it.

"You can train all day long," she says, "but if [senior] management isn't focused on having a culture that ensures appropriate focus on financial management, I don't think you can be successful." **46832**





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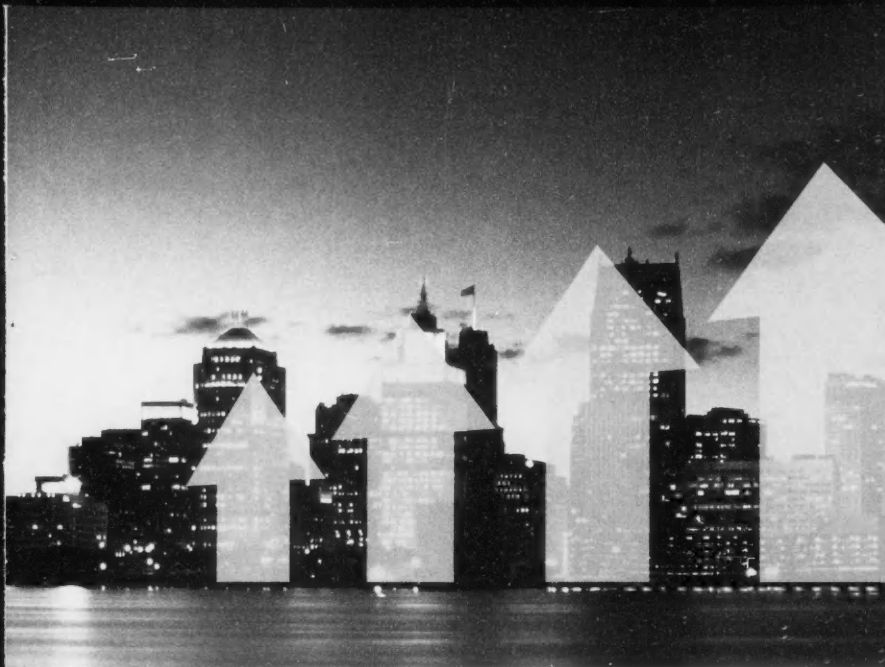
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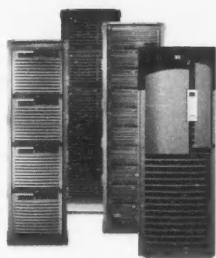
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BRAIN FOOD FOR IT EXECUTIVES

Even IT Legal Work Is Headed Offshore

LEGAL SERVICES for IT contracting may be the next function to move offshore, according to an attorney whose boutique technology law firm is engaged in setting up a service in India.

"IT contracts are integrally related to IT, and I have found that I am preaching to the choir when I discuss this cost-saving initiative with CIOs who have experienced the benefits of offshoring," says Larry Thomas, a partner at Thomas & Opp PA in Minneapolis.

Services would include a majority of the work involved in drawing up contracts for the purchase of software and hardware, as well as agreements for consulting, application service providers, software develop-



ment and, yes, even outsourcing.

Thomas plans to train Indian MBAs and technical workers in all aspects of IT contracting and have them do the bulk of the work at a fraction of the cost of a well-trained U.S. paralegal, with high-priced attorneys merely reviewing and fine-tuning the work. Quality and turnaround time will improve, and costs can be cut by at least 50%, compared with internal contracting operations, he says.

The concept is already being tested at General Electric Co., where a captive company in India has been handling various procurement functions, including, most recently, IT contracting. But GE spokesman Peter Stack says the process of offshoring IT legal work is still in the experimental stage, and he wouldn't comment on the success of the effort.

— Kathleen Melymuka

Best Bits

The most useful parts of recent IT management and business books.



THE BOOK: *Heads Up: How to Anticipate Business Surprises and Seize Opportunities First*, by Kenneth G. McGee (Harvard Business School Press, 2004).

Given that the author is a Gartner Inc. analyst, there was a danger that this book would just be a marketing vehicle for Gartner's well-worn spiel about "the real-time enterprise." Fortunately, the book is deeper than that. McGee's premise is that business surprises (such as serious revenue shortfalls) really shouldn't be surprises at all, because there are always warning signs: information nuggets that either arrived too late or were ignored. McGee — appalled that companies still make strategic plans based on last year's market-share numbers — envisions a world in which sales executives see revenue the

moment it's recorded and managers see daily profit-and-loss statements.

Managers may rightfully worry that this pitch for real-time information will only make the current infoglut worse. But the book provides a methodology for selecting only those high-value information streams that are truly worth monitoring. McGee also suggests a new position of "chief monitoring officer," but maybe today's high-price CEOs ought to do that work themselves. — Mitch Betts

Selling to the CIO

Everyone knows the No. 1 rule for selling IT stuff is to understand the CIO's problems and try to solve them — right? CIOs say enterprise software salespeople know their own products, but less than 15% of the sellers are rated as excellent at understanding the buyer's requirements and needs, according to a study by analysts at Stratagem Marketing Inc. in Herndon, Va.

Another key factor in making the sale is CIO confidence that the vendor will support the product afterward,

Stratagem says. As Eric Goldfarb, CIO at Atlanta-based PRG-Schultz International Inc., recently put it in an online essay [QuickLink 44490], "Over the course of implementing products or software, something's bound to break. The salesperson who stands by me over the years and doesn't run away at the first sign of trouble is going to be successful." **Q 47063**

Benchmarks

Benchmarking, in which companies compare themselves against their role models, is essentially a quest to find the best practices for a particular business process. These are the most commonly benchmarked functions:

1. Information systems
2. Customer service/satisfaction
3. Employee development/training
4. Human resources
5. Knowledge management

SOURCE: THE BENCHMARKING EXCHANGE, APTOS, CALIF., MAY 2004

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The IT Economy

■ **Canadian IT spending** will grow 3% this year, led by government spending, according to Forrester Research Inc. The slower Canadian economic recovery means that IT spending growth will lag that of the U.S. by one or two quarters. Canadian government spending is strong because of e-government initiatives and the replacement of antiquated systems, Forrester says.

■ **Spending on offshore business process outsourcing** is expected to reach \$3 billion this year, a 65% increase from the 2003 total of \$1.3 billion, according to Gartner.

Ups & Downs

Which software providers are gaining or losing a share of your IT spending dollars?

GAINING

1. Red Hat Inc.
2. Symantec Corp.
3. Mercury Interactive Corp.
4. SAP AG
5. Microsoft Corp.

LOSING

Computer Associates International Inc.

BASE: 100 IT MANAGERS AT FORTUNE 1,000 COMPANIES
SOURCE: THE GOLDMAN SACHS GROUP INC., NEW YORK, MAY 2004

Retail E-commerce Growth Rate

Retail e-commerce still amounts to only 1.9% of overall U.S. retail spending. But online sales are growing faster than total sales.

Q1 2003 - Q1 2004



SOURCE: U.S. DEPARTMENT OF COMMERCE, MAY 2004

NOTE: Tech-Economy.org has discontinued the monthly IT confidence index previously published here.

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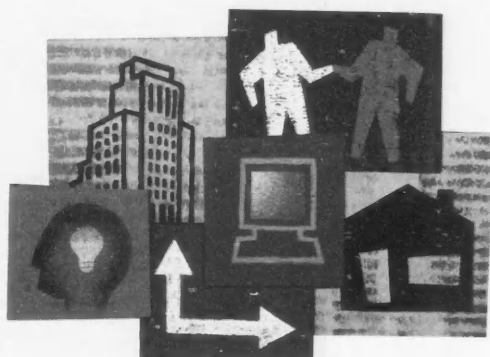
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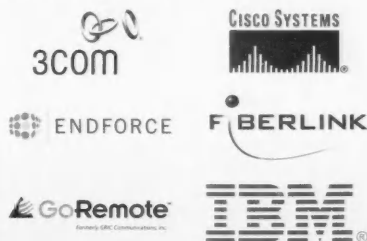
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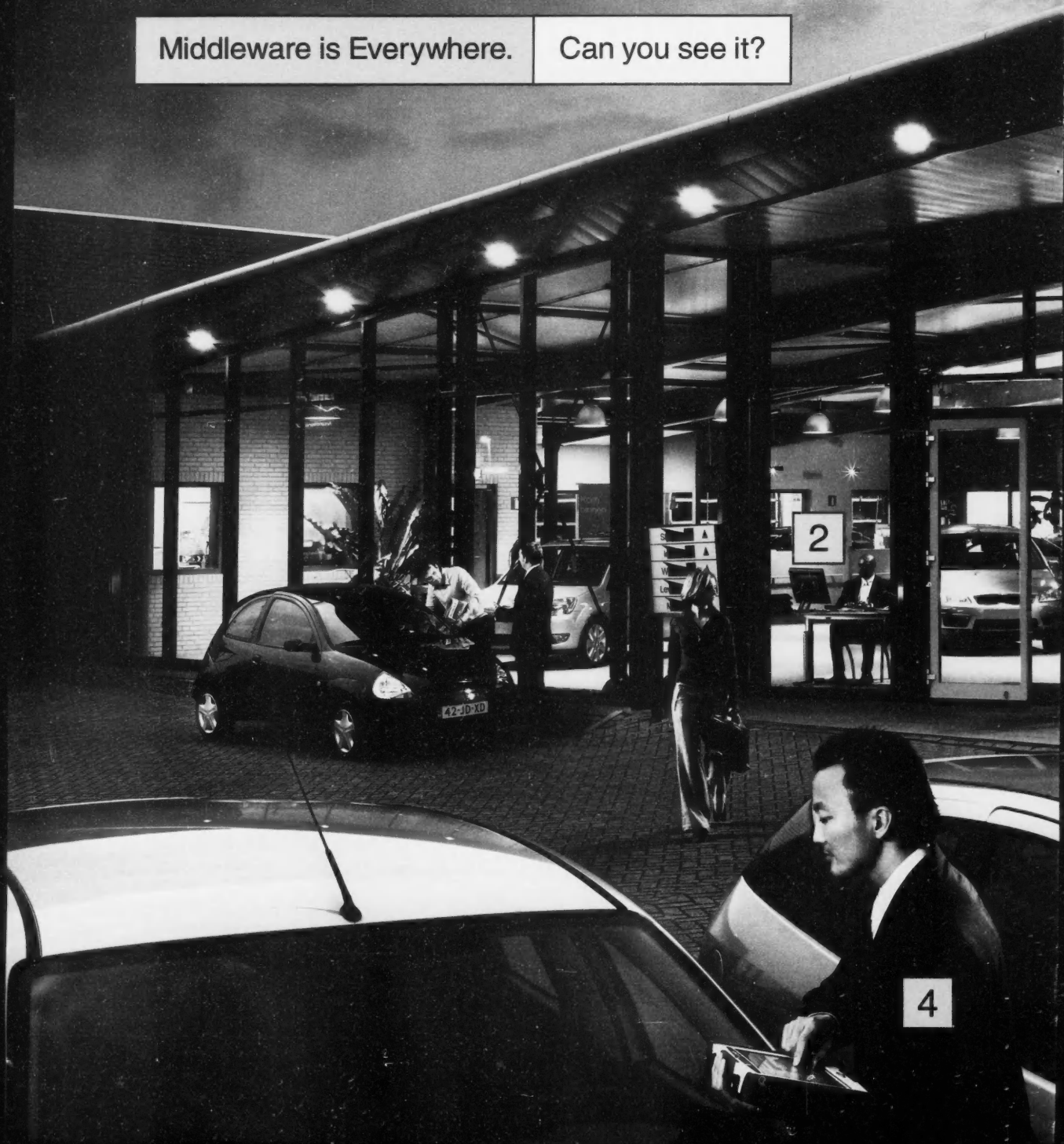
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BRIEFS

AT&T to Provide Underwriters' VPN

AT&T Corp. has won a multimillion-dollar contract from Underwriters Laboratories Inc. for integrated networking. AT&T will provide an IP virtual private network that will serve as UL's primary data channel, integrating its Northbrook, Ill., headquarters with 27 locations worldwide. AT&T will also provide a backup network to automatically reroute traffic in the event of a disaster.

Guardian Extends Siemens Contract

Siemens Business Services Inc. in Norwalk, Conn., and The Guardian Life Insurance Co. of America in New York announced a performance-based agreement that extends their multimillion-dollar outsourcing relationship until 2009. The on-demand outsourcing model provides IT support services for 5,000 employees and 2,800 agents.

Accenture Wins Allmerica Project

Allmerica Financial Corp.'s property and casualty insurance division has chosen Accenture Ltd. to implement a Web-based software platform to improve the efficiency of the insurer's underwriting systems through diagnostics and rules-based technology. The system will help automate underwriters' routine tasks, letting them focus on core activities such as improving loss and expense ratios.

AMP, CSC Sign Deal

AMP Ltd., a Sydney, Australia-based financial services company, has signed a three-year, \$103 million IT outsourcing contract extension with Computer Sciences Corp. in El Segundo, Calif. Under the agreement, CSC will continue to provide desktop and network support, mainframe maintenance and other services for AMP's Australian operations through May 2007.

PAUL GLEN

Getting to Done

I'M FREQUENTLY CALLED upon to help figure out what to do with a project that might be in trouble. Of course, determining whether a project is in trouble is often not a trivial problem. We like to talk about troubled projects as if there were a single bit that visibly flipped from one to zero, but unfortunately it's not that easy.

While the symptoms presented vary widely, there are a few questions that I always ask to help determine

whether the project is indeed in trouble. Some questions are deceptively simple with surprisingly subtle answers. Perhaps the most important is, "How will you know when you're done?"

One thing that all projects have in common is that they are (or at least are intended to be) temporary. They should have a conclusion. So theoretically, this should be a rather easy question to answer, but it's usually greeted with blank stares followed by one of four standard responses:

Response 1: "We're done when the quality of the product meets our standards." This is the idealistic response, the "we'll sell no wine before its time" approach.

Response 2: "We're done when the product fulfills the requirements." This is the legalistic response, the "we're done when we've completed the minimum required by the letter of the law" approach.

Response 3: "We're done when we reach the schedule deadline." This is the schedule-driven, pragmatic response, the "we're taking it to the trade show whether it's ready or not" approach.

Response 4: "We're done when we run out of money." This is the

budget-driven response, the "our CFO won't give us any more money, so we'd better just roll it out" approach.

Unfortunately, none of these responses captures the subtle reality of IT work. We don't have a simple answer to the "What does 'done' mean?" question. We don't have a physical product with physical properties. It's considerably easier to discern when a bridge is done. Does it span the gorge? Is it painted? Will it withstand the traffic we anticipate for it?

For IT projects, there's only one real way to tell when a system is truly done. That's when all the stakeholders in the system agree that it's done. Each group must certify that the project sufficiently addresses its concerns. Among other criteria, they must agree that the project meets enough of the requirements, is ready when necessary, is deployable, is supportable and will be accepted by the users. In short, in the absence of physical evidence of completion, "done" is fundamentally a political decision, not a technical one.

A different yet related deceptively simple question is, "Do you think that the team has the skills to complete this project?" This one is usually

answered with a list of the technical skills of the team members.

Of course, technical skills are important for getting to done, but clearly they're not sufficient if we understand that "done" is defined politically, not technically. There are other equally important skills for building the consensus required for success. They include the following:

Listening. Do the team members have the ability to listen carefully for both technical and business requirements? Can they hear both the issues and the feelings that surround those issues? Can they confirm what they hear to ensure that they haven't misunderstood?

Identifying interests. Do the team members have the ability not only to hear what the stakeholders are saying, but also to anticipate and interpret their interests? Can they understand what may be driving the requests and demands that they hear?

Managing constructive conflict. Does the group have the ability to engage in the constructive conflict required for building consensus? Can it deal with the conflicting demands of stakeholders? Can it reconcile the emotional needs of stakeholders?

Negotiating trade-offs. And finally, can the team manage the negotiating process required to build consensus? IT projects are now the gridiron on which corporate politics are played. As systems become integral to business processes, turf battles may be negotiated during the requirements and acceptance phases of projects.

So when you contemplate your next project, consider not just the launch of the project, but how the team will get to "done." When you think about the end first, you've got a better chance of getting there.

☎ 46978

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PAUL GLEN is an IT management consultant in Los Angeles and the author of the award-winning book *Leading Geeks: How to Manage and Lead the People Who Deliver Technology* (Jossey-Bass/Pfeiffer, 2003; www.leadinggeeks.com). He can be reached at info@p2-consulting.com.

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Infrastructure Makeover: Moving the U.S. Air Force Toward Network-Centric Services Delivery

Brigadier General Brad Butler, Deputy Chief Information Officer, U.S. Air Force

9:15am to 9:45am

User Case Study

9:45am to 10:15am

Refreshment and Networking Break

10:15am to 10:45am

Customer Challenges and Solutions: Real-Life Scenarios Connecting Data Centers Over Distance

Steve Adolph, CTO, Enterprise Solutions Group, CIENA

10:45am to 11:15am

Network Consolidation and the Data Center: Boosting Business Performance and Application Availability

Richard Villars, Vice President, Storage Systems, IDC

11:15am to noon

Strategies for Streamlining Key IT Resources

Panel Moderator: Maryfran Johnson, Editor in Chief, Computerworld

Panelists: Stephen Morn, CIO, TAC Worldwide Companies; Kamal Narang, CTO, CTIS, Inc.

Noon

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IT Careers: CIOs Share Career Tips for Women



No three careers in the information technology profession are the same. However, when discussing how to build an IT career, three IT leaders share a common belief: Women must be willing to take the risky projects.

Barbara Cooper, CIO for Toyota America; Ann M. Harten, SVP and CIO for SIRVA; and Jane Fishkin, CIO for the Brookings Institution, are members of the newly formed CIO Executive Council – a group that is studying the future of technology and how to move forward in an increasingly complex technological world. All three have found some common themes in building careers: willingness to take on projects that seem “out there” at the time, being surrounded by bright people, and understanding that choices will have to be made.

“You have to know that you will take the opportunity when it presents itself,” Cooper says. “It may mean moving, taking an overseas assignment or taking on an area you may not know a lot about. That has always been more of a challenge for women who have families or who have a working spouse.”

Fishkin, who chose public sector over commercial when she left IBM for Brookings, says it’s also important to know and accept your own approach to careers. “There are those who plan their careers and know what steps they want to take next. There are others who don’t plan – they do what they like and go where they’re needed.” Fishkin is the latter but says the end result looks as though she planned it. An economist by education, she began with punch cards and 1s and 0s at IBM. After moving to Brookings, she was immersed in conversations about the ethics of the Internet and e-commerce – more than two decades ago.

The three CIOs identify common skills they look for in preparing IT leaders of tomorrow.

- The ability to broaden experiences.
- A mix between technical and business/institutional assignments.
- The ability to influence others.
- The personality to be an aggressive learner.

“My advice is to broaden your experiences and stay away from pigeon holing. If you’re provided an opportunity to work on the business side, grab it. Step outside your comfort zone,” Harten explains.

Fishkin says, “I’ve hired a lot of people who didn’t have the exact skill or competency that was needed for the job. It’s really about their attitude and their ability to learn quickly, that they’re not afraid to volunteer to take on something new.” And, according to Cooper, communication “is as important as knowing any technology. It doesn’t matter if you’re better at Java or Dot-Net if you can’t influence others, negotiate and drive change.”

Once women reach leadership positions, continued learning is critical, they say. Cooper’s greatest challenge is preparing people to manage and lead an ever more challenging IT world – studying, projecting and then linking technology to people. Harten relies on extensive networking to enrich herself personally, but also to bring value to her company. “Through these relationships, I’ve been able to refine my thinking and avoid pitfalls.” For Fishkin, the juice of the future is continuing to find ways for technology to enable the business, government and education experts she supports – with far-flung projects that carefully examine the future, using technology that needs to be up and running today.

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InterSkills

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IT PROFESSIONALS

Consultant

(Glen Mills, Pennsylvania and other locations through the U.S.) Design and implement custom technology oriented business solutions utilizing Oracle and CRM applications. Develop system requirements, create support procedures. Draft components of proposals for engagements and identify sales opportunities. Develop hypothesis and identify data needed to evaluate existing business systems. Evaluate alternatives and recommends solutions for issues encountered on engagements. Draft effective presentations and reports for clients. Gain an understanding of clients key business decisions and implications on their business models. Build awareness of technology enablers including interfaces between Legacy & Oracle systems and their potential impact on business requirements. Develop new business processes and application designs using Microsoft Visio within Oracle CRM modules. Provide potential gap resolution alternatives, create designs for complex technical requirements including gap analysis, infrastructure, interfaces between Legacy and Oracle systems, enhancements, and conversions. Develop test plans, scripts, cases and acceptance criteria utilizing Mercury Interactive. Prepare deliverables on engagements. Salary is \$74,751.70 per year Mon-Fri, 9:00 am to 5:00 pm.

The position requires: Bachelor's degree or equivalent in Computer Science or Engineering (any), Information Systems or Business Administration + 2 years of experience in the job offered or 2 years of experience as a Systems Analyst, Consultant or Management Analyst. Related experience must include at least six months with Microsoft Visio, Mercury Interactive Software, Oracle Systems and Customer Resource Management (CRM) Applications.

Please send your resume, referencing Job Order Number **WEB 423835** to the PA CareerLink, FLC Unit, 235 W. Chelton Avenue, Philadelphia, PA 19144, EOE.

Senior iSeries Systems Engineers - Requires Bachelor's or equivalent in Computer Science or a related field & five years experience in the job offered &/or in Computer Information Systems/Technology with 3 years of the experience being in Systems Engineering. In lieu of the BS+5 yrs, Employer will accept 8 years of experience in Computer Information Systems/Technology with 3 years of the experience being in Systems Engineering. A minimum of 18 months of TCP/IP & SNA communications on the iSeries is essential. Must have the following certifications: IBM iPAR Expert & iSeries Technical Solutions Expert, IBM iSeries Technical Solutions Design VSR2 & iSeries IBM Technical Solutions Implementation VSR2, MIMIX VARA Networking.

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IT PROFESSIONALS

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(Glen Mills, PA and other locations throughout the United States). Provide leading expertise in process areas of Supply Chain (inventory management, order management, manufacturing planning) and Product Development (Product Design, New Product Introduction) across multiple continents. Develop technology solutions in areas of Supply Chain Planning/Execution, Collaborative Commerce, and Reporting and Data Management that support and integrate with Supply Chain processes and technologies. Perform quantitative analysis of supply chain requirements to design optimal network and infrastructure and integrate Supply Chain processes with technologies to facilitate resolution of related complex client issues. Communicate progress and results to Senior Management (CEO, COO) in large multinational corporations across multiple industries.

The wage offered is \$116,000/year. The work schedule is Monday-Friday 9:00am-5:00pm. The minimum requirements are as follows: Master's degree in Business Administration + 5 years experience in the job offered or 5 years experience as a Manager, Senior Consultant, or Consultant. Related experience must also include Product Development and Supply Chain strategy and processes across multiple continents. Technology solutions in Supply Chain Planning/Execution, Collaborative Commerce, Reporting and Data Management. Integration of Supply Chain processes with technologies and facilitation of resolution of related complex client issues. Quantitative analysis. Proven record of communications with Senior Management (COO, CFO, CIO) for large corporations across multiple industries. Employer will regard a Bachelor's degree + 7 years of experience to be equivalent to a Master's degree + 5 years of experience.

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Software Engineer: Design & develop computer programs to test business applications using Oracle, Oracle Financials, SAS tools, Apache & SQL, as well as testing tools including WinRunner, Test Director & Astra Quick Test on Linux, HP UX & UNIX platforms. Install & set up Rational Unified Process in a new development life cycle. Create & execute testing scripts using C & VB. Set up & configure Load Runner to perform smoke, bounce, stress, integration, architecture & functionality specific performance monitoring of web apps. Develop test result summary report based on mean, median & standard analysis of test results using Rational Robot. Develop test strategies, test plans & test assurance schedule for all tests to be performed. Req BS in Comp Sci, an Engg discipline, or closely related field w/2 yrs exp in job offered or as QA/Systems Analyst. Extensive travel on assignment to various sites worldwide w/in US reqd. Competitive salary offered. Send resume to Ann Chi Yong, Lightning Technology Solutions, Inc, 2526 Mt. Vernon Rd, Ste 8, #307, Dunwoody, GA 30338. Attn: Job JS

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Job Description: The job requires the employee to possess a minimum of 3 years recent work experience in a similar position. Prior experience with designing and implementing solutions for extending systems management capabilities of CA-Unicenter TNG for different types of non-IT devices is mandatory. Must possess work experience using Wireless Devices (Vast, Datto2, Ion Networks, Badger and Nokia) and integration of these devices with CA-Unicenter TNG. Prior experience implementing CA-Unicenter TNG and related suites of Enterprise Systems Management products and software required.

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The job responsibility requires travel as required. Please send your resume and cover letter to: Human Resources, Professional Consulting Services, Inc., 1415 North Dayton, #35, Chicago, IL 60622.

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for the following position in Memphis, TN: **Senior Business Systems Analyst.** Develop major applications systems requirements, testing and controls. Requirements: Bachelor's degree or equivalent in business, computer science, engineering, mathematics, MIS or related field, plus 5 years of experience in systems planning and design or systems development and integration. Experience with Oracle, PL/SQL and application design and testing also required. Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Chris Gibney, Federal Express Corporation, #680 Hacka Cross Road, Bldg H 2nd Floor, Memphis, TN 38125. EOE M/F/D/V.

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Software Developers needed. Seeking candidates possessing BS or equiv. and rel work exp. Duties include: Develop and direct business software testing, programming and documentation for agri food businesses. Deploy, support and tune database and backup/recovery solutions. Work with: Perl, Java, Oracle, Linux, CVS and Apache. Exp. must include 1 year working with Linux, Perl and Oracle and working within the agri food business industry. Mail resume, refs and salary reqs to: E-Markets, Inc., 1606 Golden Aspen Dr., #108, Ames, IA 50010.

IT PROFESSIONALS
Senior Consultant
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Programmer/Analyst (SAP) - Plano, TX - Config & implemt of SAP MM (svt mgmt) CS winterface to S&D & PS & SAP CRM. C/ical center using ASAP & method blue methodology. Automate biz process maximize efficiency & productivity through effective orgn & proj mgmt skills. Bachelor's degree w/mgmt in Comp Info Sys or Mgmt Info Sys. Min 1 yr exp. 40 hrs/wk, 8am-4:30pm. Send resume to: HR Dept, Samsung SDS America, Inc. 15 Corporate Pl, So. Piscataway, NJ 08854.

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WAGE: \$82,044/year
Hours worked: Monday-Friday 9:00am-5:00pm

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Bachelor's degree in Computer Science, Engineering (any type), Math, Business Administration or Information Systems + 4 years exp. in the job offered or 4 years exp. as a Senior Consultant, Software Engineer, Consultant, or Information Technology Analyst. Related experience must include at least 2 years of large scale systems implementation utilizing SAP modules FI, CO and MM.
Please send your resume, referencing Job Order Number **WEB-423532** to the PA NW Careerlink, F.L.C. Unit, 235 W. Chelton Ave. Philadelphia, PA 19144. EOE.

Computer
AlphaSoft Services Corp. is a rapidly growing systems integration & software development services provider. We are currently recruiting for the following FT opening in Walnut Creek, CA.

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Software Engineers needed. Seeking qual. candidates possessing MS or equiv. or rel work exp. Part of req. rel work exp. must include 3 yrs working w/ PL/SQL & Oracle Technologies. Duties include: Design & develop software architecture & life cycle. Data warehousing & data mining. Work w/ Oracle 9i database, Oracle Designer, Oracle Business Intelligence, JDeveloper & Rational Rose XDE Modeler. Send res., ref. & sal. req. to Remote Computing Systems, Inc. 9017 Bluestem Rd., Wichita, KS 67207.

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SOFTWARE ENGINEER for Software Development Company. Minimum 3 years of experience and M.E. Send resume to: Alyzak Corporation, 1580 Sawgrass Corporate Pkwy, Suite 130, Sunrise, FL 33323. No walks in please.

Symphony Corp., headquartered in Madison, WI seeking candidates for mid & senior level positions: Software Engineers, Programmer Analysts, Project Managers and Quality Assurance Technicians. Forward resume, references & salary requirements to: Symphony, HR Dept., 608-294-9321 or email to info@symphony.co.

IT Professionals needed. Norwalk, CT company has several senior and entry-level positions available for qualified candidates possessing MS/BS or equivalent and/or relevant work experience. Work with one or more of the following: RDBMS (Oracle), Java, Unix, LDAP, GUI design, ODBC, JDBC, Sybase, Windows NT, Windows 2000, Visual Basic, ASP, HTML, APIs, OLTP, OLAP, Versata, PVCs, Netscape Application Server, IIS, and firewalls. Must be willing to travel and relocate. Fax resume to: Logissoft Inc., HR Dept. (303) 846-1131 or email recruits@logissoftinc.com.

Computer Developer for Boca Raton, FL firm. Must have Bachelor's Degree or equivalent & 1 year experience with developing and supporting software applications based on MS-Access/VB 6. Must have experience with real estate software applications, MS-Access, VB 6 and Oracle DB. Please respond to: Moshe Marly Baran, 7040 W. Palmetto Park Road, Boca Raton, FL 33433.

Engineer (New York, NY): Develop hardware introspective & self-adaptive hardware & software sys. Design, implement & evaluate new program representations. Consult w/ engineers & clients to enhance reliability, scalability & performance. Design systems & techniques to map applications on architectures. Must have M.S. in Comp. Sci. or Elec. Eng. with 1 yr specific experience. Send resume to: Melanie Peters, Business Manager, Reservoir Labs, Inc., 632 Broadway, Suite 803, New York, NY 10012.



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A position is available for a Senior Business Analyst, Consulting Grad with an Atlanta based technology with solutions company. The company architects and designs next generation software for point-of-sale and Internet systems in the retail industry including entertainment, petroleum, with convenience or food stores, and restaurants. The Senior Business Analyst, Consulting Grad will be primarily responsible for providing consulting services to define best operational practices for the implementation of complex software applications for Radiant clients. Candidates for this position must possess a Masters' degree in Business Administration or a computer field and at least 1 year's experience in retail, technology consulting, or business operations including finance, accounting or general management; team leadership or project management; and one of the following: technology implementations, application programming, systems analysis and management, or business process analysis and re-engineering. Apply by mail to: Vickie Olsen, Radiant Systems, Inc., 3925 Brookside Parkway, Alpharetta, Georgia 30022

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Continued from page 1

RFID

nology to track aircraft parts. Boeing and Airbus buy parts and subsystems from many of the same companies, Porad said, estimating that they have "70% common suppliers."

Porad said an agreement on RFID standards between Boeing and Airbus should help reduce deployment costs for suppliers and lead to the development of smart RFID tags that airlines could use to better manage and even reduce their parts inventories. The value of those inventories can amount to \$1 billion per airline, he added.

That's about what Delta's parts inventory is worth, said Marty Kansinger, general manager of material services at the Atlanta-based airline. Delta tracks about a half-million parts, and Kansinger noted that improving the accuracy of inventory data "is very important to us" because of the potential for reducing costs.

Garbage In, Garbage Out

Parts tracking depends on the quality of data entry, which now often begins with an airplane mechanic making notes about parts replacements on a clipboard. Delta plans to conduct the RFID test to see if the tags can help speed up data entry and reduce errors while minimizing the amount of information that end users have to input manually, Kansinger said.

During the test, which will run through the end of the year, Delta will use RFID devices and so-called smart bins equipped with RFID readers at one of its repair depots to track the movement of engine parts through the facility.

Delta and Boeing also hope to determine how well RFID tags and labels — which are substrates that contain embedded tags — can stand up

to engine temperatures that reach as much as 500 degrees. Kansinger said the tag supplier, which he didn't identify, claims that the devices can withstand such temperatures. To make sure, Delta plans to put RFID labels on parts inside six to eight engines on Boeing 757s.

Delta has already done two tests of RFID tags attached to passengers' luggage [Quick-Link 45915], and a spokesman for the airline said it plans to decide by year's end whether to deploy the technology throughout its operations to track bags.

Porad said the tags planned for the commercial aviation industry will be able to store more data than the ones being tested in the retail industry



DELTA'S RFID TRIAL will track parts used in engines such as this Pratt & Whitney Series 2000.

by companies such as Walmart Stores Inc. and its suppliers. For example, he noted that Boeing is using tags that can handle up to 10,000 bits of data, far more than the 256 bits supported by retail-industry tags.

The additional space is required because Boeing and its airline customers need to store more information, in-

cluding long serial numbers, detailed parts information and repair histories, Porad said.

In a test conducted during the last three months of 2003, Boeing and FedEx Corp. used RFID labels to track parts on an MD-10 freighter airplane. FedEx is scheduled to detail the results of the test at this week's aviation industry RFID forum.

FedEx officials couldn't be reached for comment last week. But Porad said the test showed that tags operating in the 13.56-MHz frequency can function inside the metal environment of an aircraft and meet Federal Aviation Administration mandates on electromagnetic interference. He said he expects the FAA to soon approve the use of 13.56-MHz

tags on commercial aircraft.

From a global perspective, 13.56-MHz tags are ideal, Porad said, because that frequency is approved for use worldwide — although its practicality is somewhat limited because the maximum range between RFID tags and readers is just 1 meter.

In future tests, including the one with Delta, Boeing plans to use tags that operate at 915 MHz and have a read range of roughly 60 feet. But those tags were developed for the retail industry and currently are limited to the 256-bit storage capacity. In addition, they can't be deployed in Europe because of prohibitions against the use of that frequency for RFID applications. **47350**

Citigroup to Support Video Streaming on 300k PCs

Will use for training and market updates

BY LUCAS MEARIAN

As part of a multiyear project, Citigroup Inc. has begun rolling out technology from IBM and other vendors that will let the financial services firm stream live or archived videos and multimedia content to about 300,000 PCs.

Citigroup will use the content-delivery system to train employees and send financial market updates and internal corporate announcements to its workers worldwide, said Tony Raimundo, senior vice president of digital media and collaborative technologies at the New York-based company.

Raimundo said Citigroup started designing the system two years ago and expects to install software agents that support it on about 150,000 PCs in 52 offices this year. Another 150,000 PCs are scheduled to be equipped with the

agents next year, he added.

The technology Citigroup plans to use is part of an integrated set of products called Digital Media for Banking. IBM announced the bundle last month at a technology conference held in Boston by TowerGroup, a research firm that focuses on financial services IT.

Digital Media for Banking includes IBM's Intel-based xSeries servers, plus its DB2 database and content management software and WebSphere middleware. The bundle also incorporates Cisco Systems Inc.'s routers and its Application and Content Networking System software, which provides local caching and content-delivery capabilities. Streaming media software developed by Media Publisher Inc. in Berkeley, Calif., is included as well.

"Ultimately, we'd like to stream [content] to potentially every desktop and television in Citigroup," Raimundo said.

He added that having video-on-demand capabilities should help improve productivity by allowing employees to watch training or corporate information videos when it's convenient for them.

New Options

"We've done live streaming over satellite, but it was problematic because if you were a worker, you needed to be at your desk at [a specific time] to see it," Raimundo said.

In the past, Citigroup also had to set up live video feeds in conference rooms when it wanted to communicate at a corporatewide level. Raimundo said he's now looking for

"We've done live streaming over satellite, but it was problematic because . . . you needed to be at your desk at [a specific time] to see it."

TONY RAIMUNDO, CITIGROUP

would be able to stream content directly to end-user PCs. He declined to disclose the cost of the project.

In addition to the interactive video technology that Citigroup is installing, the Digital Media for Banking bundle supports digital content management, video surveillance of facilities and online merchandising via plasma-screen televisions in branch offices.

Metadata about the multimedia content is stored alongside the videos in DB2-based repositories to help streamline the process of searching for archived information, said Keith Myer, a digital media marketing manager at IBM.

Guillermo Kopp, an analyst at Needham, Mass.-based TowerGroup, said there's nothing new about associating metadata with streaming video, audio or graphics files for data mining and distribution purposes. But he added that IBM has structured its technology in a way that links the videos with other data such as customer records and marketing information.

47202

FRANK HAYES ■ FRANKLY SPEAKING

Big IT: Doomed

BIG IT PROJECTS ARE DOOMED. Want proof? Just look at the four-year, \$100 million-plus project to rebuild the air-travel reservation system run by Sabre Holdings Corp. [QuickLink 46873]. Sabre's decades-old system was 10 million lines of mainframe assembly language code. The new version is C++ and Java running on 17 HP NonStop database machines and 45 Linux servers — which means *everything* is getting overhauled. And halfway through the project, it's all working.

So how does this big — and successful — IT project prove that big IT projects are doomed? It became successful only because Sabre *stopped* running it as a big IT project.

See, Sabre has tried to overhaul its reservation system before — most infamously from 1988 to 1992, when it spent \$125 million on a megaproject to do just that. This was Sabre's giant leap into the future. Project architects polished the design down to the last interface and buffer. Project managers broke it into manageable pieces to be built in parallel, just the way the experts said it should be done.

After three and a half years of development, the pieces were put together into a finished system. It didn't work well. Three months before the project was set to go live, with partners like Budget Rent A Car and the Hilton and Marriott hotel chains waiting to use it, managers began to realize the problems might not be fixable.

A few weeks ahead of the promised completion date, Sabre had to junk the entire system.

Now *that* was a big, doomed IT project. And for 10 years, it spooked Sabre away from anything that big.

So what makes this new four-year, \$100 million-plus success different from that old four-year, \$100 million-plus catastrophe?

This time, it wasn't a big leap. Borrowing techniques from so-called agile programming, Sabre did it as a series of small steps.

Because of that, the project's architecture has already changed twice so far. Originally, all the mainframe functions were going to be ported to the fault-tolerant NonStop servers. As the project progressed, some of those functions were shifted to Unix servers. Then they were moved to Linux. And the data-replication system was also rearchitected midstream.

As a result, the system already looks a lot different now than the design did in 2001, when the project started. Small steps — and a willingness to change direction — make that possible.

Small steps also make it possible to respond to changes in technology. That's why Linux, which didn't look like a viable option in 2001, could be brought in later in the game.

And small steps make it possible to go live with each iteration of the system before moving forward — to make sure the technology works and to make sure the system is what users need. If it's not, it can be changed.

That doesn't sound like a big IT project, does it? Everything we expect from a big IT project is missing: the grand, detailed plan; the divide-at-the-start-and-integrate-at-the-end strategy; the years-before-it-goes-live schedule.

That approach has doomed big IT projects for generations. It had too much risk built into it, requiring too many predictions in the face of too much change — and depending on too much perfection in execution.

Now that approach itself is doomed. There's no longer any justification for putting a major project at risk with a traditional big IT project approach. We know it doesn't work.

And we know what does work.

We've seen it at Sabre. So don't fear big, doomed projects. Break them down. Take them live as a series of small steps. Change your designs in response to new technology — and as you go, make sure they work.

That way, no matter how large they get, your IT projects never have to be doomed again. **Q 47311**



FRANK HAYES, *Computerworld's* senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Darn Newfangled Pay Stubs!

Support pilot fish is trying to explain to employees who are not office workers — and have no computer experience at all — how to view their new online pay stubs. "The built-in browser for a large Internet provider does not work well with the 'paycheck' Web site," fish reports. "The solution is to leave the ISP logged on and start Internet Explorer. I ask one user to do this, and he reports that Explorer is not installed. I ask, 'This is a Windows machine, right?' His reply: 'I just got it and don't know what is installed.'"

Um, No
Distribution company gets a complaint from an independent

SHARK TANK

so far was toast — that's why the warning was issued. And during the

retailer that he's being double-billed for every shipment. "The accounting group and I spent days poring through invoice file backups and could not find a single duplication," says pilot fish working there. "Then I recalled a programming change made at the request of some dealers: We had added the item and extended cost on the packing slips. The dealer was paying both the packing slip and a faxed invoice. 'The two documents look too much alike,' he said. 'Could you please change the color of the fax to distinguish it from the packing slip?'"

Hot Idea

For days, user keeps getting a warning beep when he reboots his PC. So he goes into the BIOS and turns off the alarm, which is for the CPU temperature. "But how could the temperature be wrong?" says support pilot fish. "A few days later, the system was dead. The very hot processor was due to the fact that the proces-

attempt to fix the PC, the user's hard disk was erased. But at least that darn system warning was gone."

It's Official

Pilot fish applies for a mortgage, and along with the usual piles of paperwork sends printed receipts from her electronically distributed paycheck. "A few weeks later, the mortgage company called and told me they couldn't accept my printed electronic pay stub because it didn't look official," says fish. "I told them they could easily call my employer and verify that this was a valid pay stub, but the mortgage guy insisted it had to be 'like an ADP pay stub or even a proof-of-employment letter from your HR department.' I wholeheartedly agreed to get the letter from HR — since my job in the company's HR department involved automating proof-of-employment letters, complete with electronically applied signature. No way could they be tampered with, right?"

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